Color StyleWriter 2200

Basics
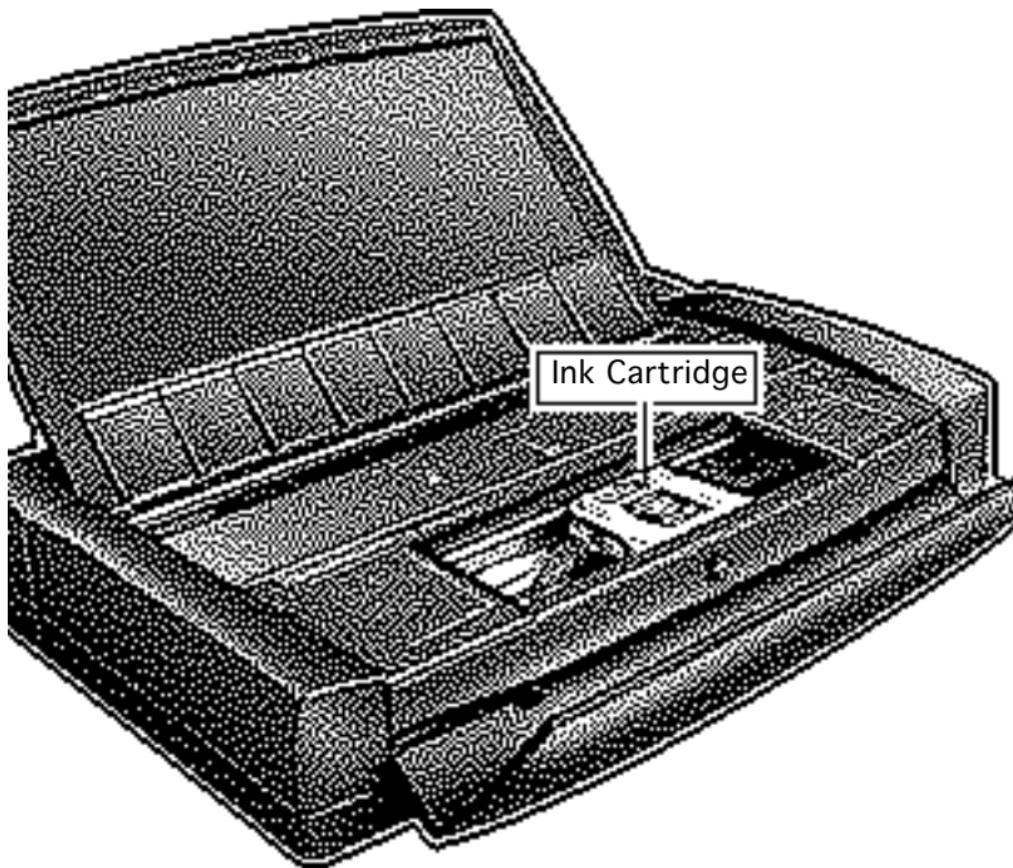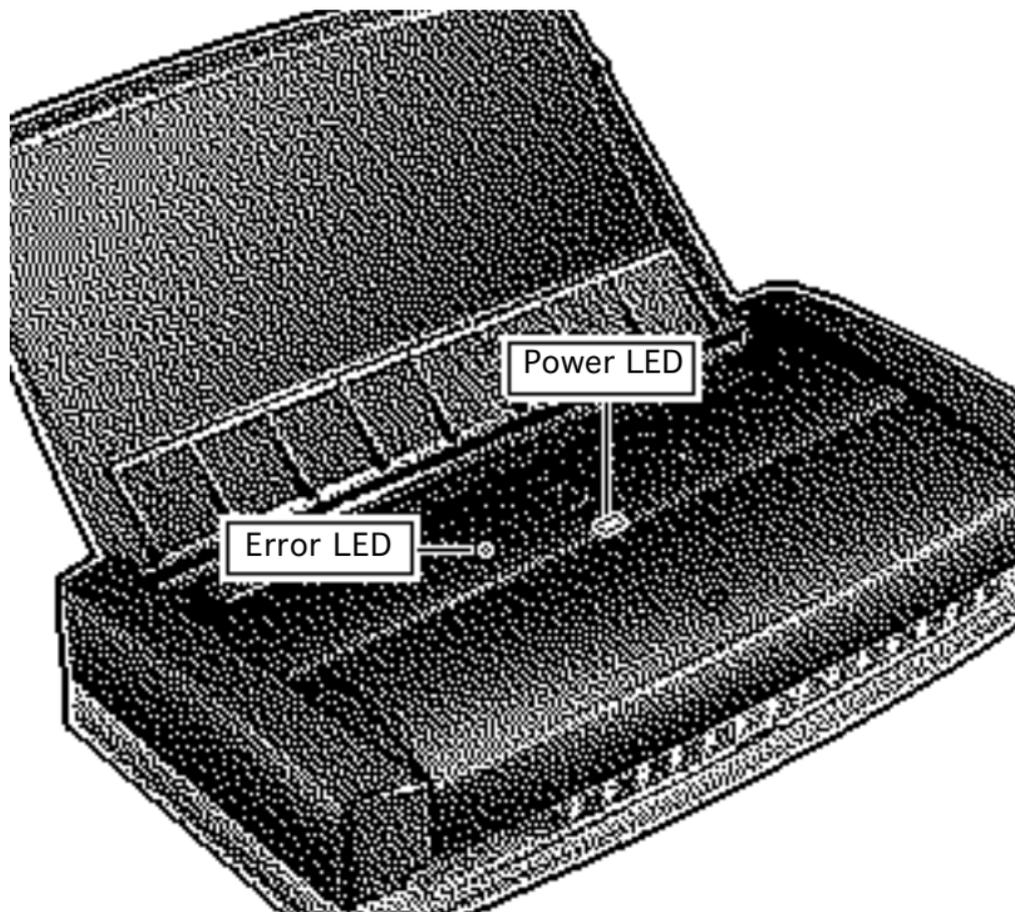
Color StyleWriter 2200

Overview

The Color StyleWriter 2200 is a desktop color bubble-jet printer for personal use. It has various features such as high-speed printing (5 pages per minute), high print quality, cut sheet feeder, and printing on plain or coated paper.

The Color StyleWriter 2200 can be configured with either a four-color ink cartridge or a high-performance black ink cartridge. Both of these cartridges can be easily replaced.

Ink Cartridge

The Color StyleWriter 2200 has two LEDs that can aid in troubleshooting the printer. See the Troubleshooting chapter for more information.

Power LED

Error LED

Ink Cartridge Identification

Caution: Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.
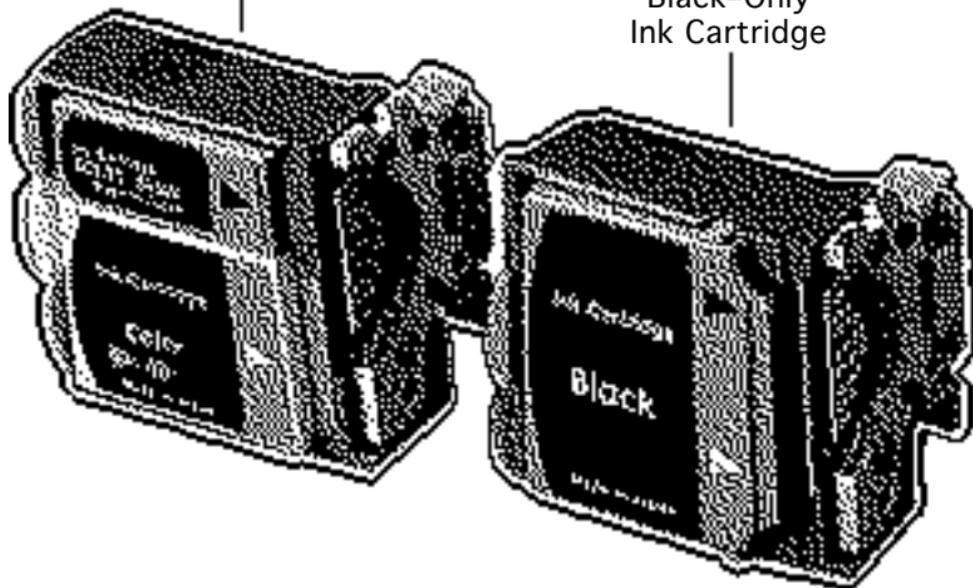
Caution: To prevent the print heads from clogging, do not touch or wipe them.

Four–Color
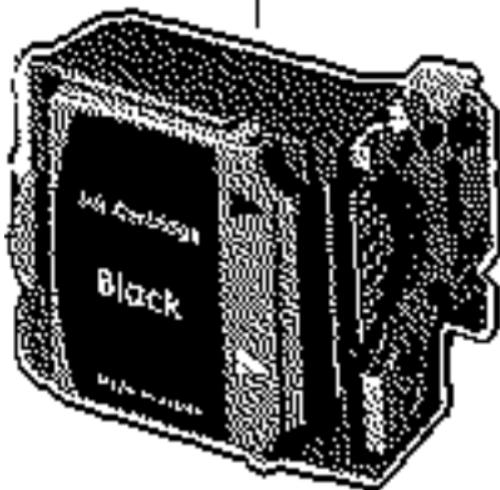Ink Cartridge

Black–Only
Ink Cartridge

Note: Two ink cartridges come with the printer. One cartridge is black ink only; the other is a four-color ink cartridge with two ink tanks.
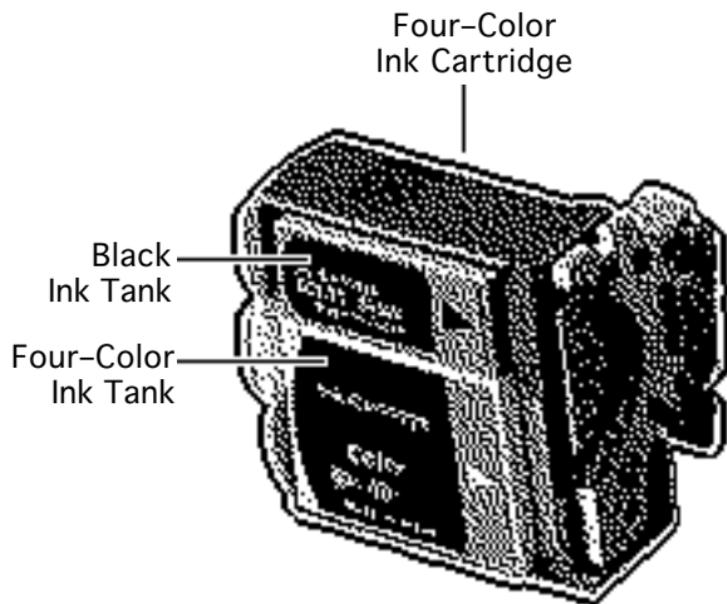
Black–Only
Ink Cartridge

Black-Only Ink Cartridge

The black ink cartridge contains one ink tank. To order a replacement cartridge, use the finished goods part number (M3909G/A). The finished goods part number for the black tank is M3910G/A.

Four-Color Ink Cartridge

The four-color ink cartridge holds two ink tanks. One tank contains black ink only, and the other tank contains the cyan, magenta, and yellow inks. To order a replacement cartridge, use the finished goods part number (M3908G/A). The finished goods part number for the black tank is M3912G/A. The finished goods part number for the three-color tank is M3911G/A.

Four–Color Ink Cartridge

Black Ink Tank

Four–Color Ink Tank

Specifications

Color StyleWriter 2200

Characteristics

Print Methods   Serial bubble jet ink-on-demand

Throughput   Up to five pages per minute with the high-performance black ink
                           cartridge
                           Up to 0.3 page per minute for color
                           Actual speed depends on the documents printed and the
                           Macintosh used

Print Head   Four color cartridge: 136 nozzles (vertically-lined)
                           1 x 64 nozzles for black color
                           3 x 24 nozzles for yellow, magenta, cyan
                           Black cartridge: 128 nozzles (vertically-lined)

Graphics

Resolution   720 x 360 dpi (text, line art)
                        360 dpi (normal mode)
                        180 dpi (draft mode)

Print Media

Paper   Plain paper, coated (recommended for color picture output)
Capacity: 30 sheets

Envelopes   Commercial number 10, monarch, and other sizes
Capacity: 5 envelopes

Transparencies   Coated transparencies, most ink jet transparencies
Capacity: 10 sheets

Back-Print Film   Letter, A4
For superior graphics and imaging results, premium paper and
back-print film are recommended

Cut Sheets

LTR, LGL, A4
U.S. Letter (LTR): 8.5 x 11 in. (215.9 mm x 279.4 mm)
U.S. Legal (LGL):   8.5 x 14 in. (215.9 mm x 355.6 mm)
A4: 210 mm x 297 mm
Weight: 16-24 lbs.   Capacity: 30 sheets (A4, LTR); 20 sheets
   coated paper

Ink Cartridges

Type   High-Performance black ink cartridge with ink tank and
                   print head
                   Four-color ink cartridge with two ink tanks (black only and
                   color—cyan, magenta, yellow) and integrated print head

Ink Color   Black
                   Four-color (black, cyan, magenta, yellow)

Shelf Life   6 months (installed in printer)
                   18 months (in original package)

Print Head Cartridge Life

Text: Approx. 3000 pages (A4/LTR) high-performance black only
Color: Approx. 2000 pages, with ink tank replacements

Ink Tank Life

High-performance black cartridge with integrated ink tank
900 pages at 5% coverage

Color ink tanks (CMY)
40 pages at 7.5% coverage (color)
150 pages (black)

Environmental

Acoustic Noise Level   Approx. 45 dB (reference level)

Temperature   41–95°F (5-35°C)

Humidity   10–90% (no condensation)

Electrical

Electrical Requirements	120 V, 60 Hz, 1 A
	220–240 V, 50 Hz, 0.5 A
Power Consumption	30 W maximum

Physical

Dimensions   Height: 2.3 in. (57 mm)
                        Width: 11.8 in. (300 mm)
                        Depth: 6.2 in. (157.6 mm)

Weight   Approx. 3.1 lb. (1.4 kg)

Troubleshooting

Color StyleWriter 2200

General

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to your product. Because cures are listed on the charts in the order of most likely solution, try the first cure first. Verify whether or not the product continues to exhibit the symptom. If the symptom persists, try the next cure. (Note: If you have replaced a module, reinstall the original module before you proceed to the next cure.)

If you are not sure what the problem is, or if the Symptom Charts do not resolve the problem, refer to the Flowchart for the product family.

For additional assistance, contact Apple Technical Support.

Error Messages and LEDs

The Color StyleWriter 2200 has two LEDs that can aid in troubleshooting the printer: error LED and power LED.
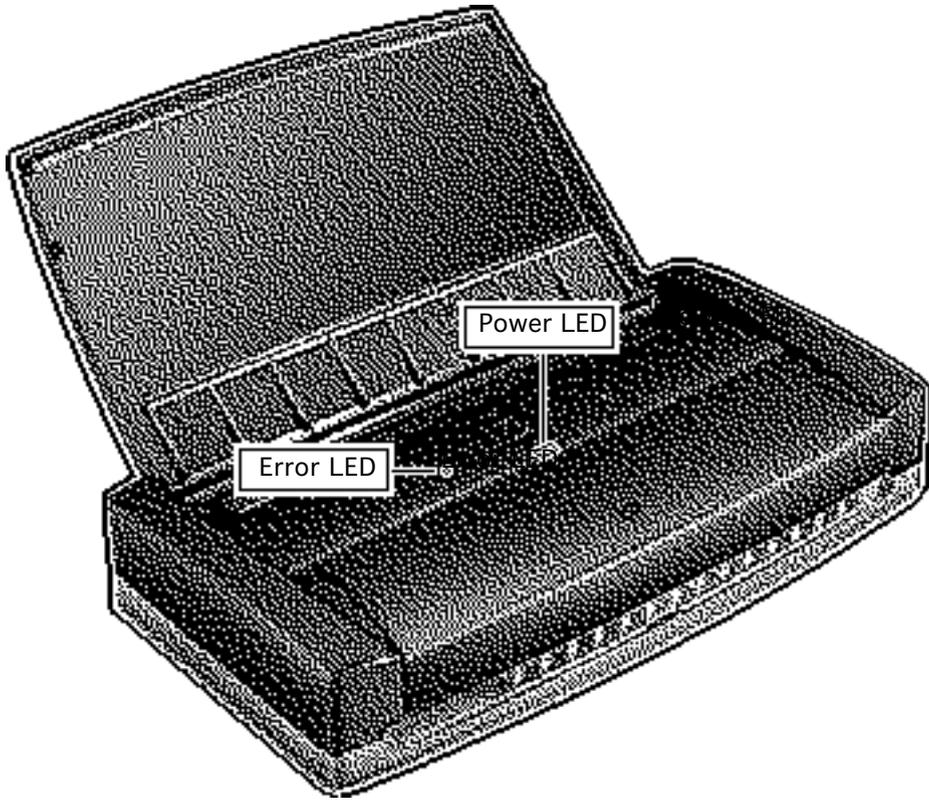
The printer software also gives error messages to pinpoint errors.

Make sure the printer is hooked up to a Macintosh and that the Color StyleWriter 2200 software is installed. See the Diagnostics folder on the Service Source CD for the printer driver.

The Color StyleWriter 2200 Ink Cartridge is missing or not installed correctly. Insert the cartridge properly, then click Continue.

$060B

Cancel   Continue

The LEDs indicate the state of the printer or whether an error has occurred (e.g., carriage control error, paper jam).

The following chart provides a summary of error codes and printer states. If an error is indicated, check the chart, then go to "Error LEDs" in the Symptom Charts.

Software Error Message (from printer driver)	LEDs Error	Power	Symptom (see Symptom Charts)
Out of paper	⊕	▭	Paper pickup error
Paper jam	⊕	▭	Paper jam
Ink cartridge jam	⊕	▭	Carriage control error
Obstruction, clear and try again	⊕	▭	Cleaning error
Problem with host computer	○	▭	Host originated error
Cartridge needs to be replaced	○	⊏⊐	Head temperature sensor error
Check connector and try again	☼	⊏⊐	Temperature sensor error
Cartridge not installed properly	☼	⊏⊐	Cartridge error
Check connectors and try again	☼	⊏⊐	ROM/RAM error
Waste ink absorbers full	☼	⊏⊐	Waste ink full error
Battery low, recharge battery	☼	⊏⊐	Battery error
Door open	☼	⊏⊐	Door open error

LED Legend:		OFF	ON	BLINKING
	Error (Orange)	○	⊕	☼
	Power (Green)	▭	▭	⊏⊐

Symptom Charts

Paper

Paper sticks together
1 Remove excess sheets from paper tray.
2 Use only specified paper, envelopes, transparencies, and backprint film.
3 Check that settings in Page Setup menu are correct.
4 Fan paper before putting it in paper tray.

Paper skews
1 Remove excess sheets from paper tray.
2 Use only specified paper, envelopes, transparencies, and backprint film.
3 Stack paper flush against left side of paper tray and adjust paper guide.
4 Check rollers on sheet feeder and eject roller. Clean or replace if necessary.

Paper jams during loading, before printing	Carefully remove paper by hand.
Paper jams inside printer	Carefully pull out paper in direction of paper output.
Paper jams during output, after printing	1 Carefully pull out paper in direction of paper output. 2 Check eject roller for obstructions or damage, and clean or replace if necessary.
Paper feeds incorrectly or feeds multiple sheets	1 Use paper pickup roller cleaning tool. See "Cleaning Tool Installation and Use" in Additional Procedures chapter. 2 Repeat cleaning process. 3 Advise customer to contact Apple Assist or their support provider.

Operation

No power   1 Check power cable connections.
                            2 Replace power cord.
                            3 Replace controller board.

Does not print   1 Turn on printer and restart computer.
                            2 Check interface cable connections.
                            3 Open Chooser and verify that correct printer driver and port
                               is selected.
                            4 Replace printer driver.

Carriage unit does not   1 Make sure covers are securely closed.
move to center when   2 Check carriage for obstructions.
front door is open, and   3 Replace controller board.
printer is on

Print Quality

Missing dots and/or white streaks

1 Perform "Nozzle Check" and "Print Head Cleaning." See Additional Procedures chapter.
2 Make sure ink cartridges are set firmly.
3 Use only specified paper, envelopes, transparencies, and backprint film.
4 Replace ink cartridge. See Additional Procedures chapter.
5 Replace logic board.

Blurring and/or smudging

1 Use only specified paper, envelopes, transparencies, and backprint film.
2 Perform "Print Head Cleaning." See Additional Procedures chapter.
3 Replace ink cartridge. See Additional Procedures chapter.

Missing dots, followed by a blob of ink	Before printing, switch print quality to "Best" in printer driver.
Vertical lines are distorted/wavy	Open and close blue lever next to cartridge to make sure cartridge is seated properly.
Poor image at bottom of page	Increase margin at bottom of page to at least 0.8 inch.

Error LEDs

Paper pickup error

1. Add paper.
2. Use only specified paper, envelopes, transparencies, and backprint film.
3. Check that settings in Page Setup menu are correct.
4. Fan paper before putting it in paper tray.
5. Use paper pickup roller cleaning tool. See "Cleaning Tool Installation and Use" in Additional Procedures chapter.

Paper jam

Check eject roller for obstructions or damage, and clean or replace if necessary. Use paper pickup roller cleaning tool.

Carriage control error

Make sure ink tank is latched securely.

Temperature sensor error

1. Check cable connections.
2. Replace logic board.

Cleaning error	Check eject roller for obstructions or damage, and clean or replace if necessary. Use paper pickup roller cleaning tool.
Cartridge error	1 Make sure ink cartridges and tanks are set firmly and latches are secure. Make sure ink cartridge does not interfere with cover plastic. 2 Replace ink cartridge.
ROM/RAM error	1 Check cable connections. 2 Reinstall printer software. 3 Replace logic board.
Waste ink full error	Replace print unit assembly.
Head temperature error	Replace ink cartridge.

Take Apart

Color StyleWriter 2200

Battery Attachment

Battery Attachment

No preliminary steps are required before you begin this procedure.

1 Turn over the printer.

2 Turn the thumbwheel until the battery attachment disengages from the printer.

Thumbwheel
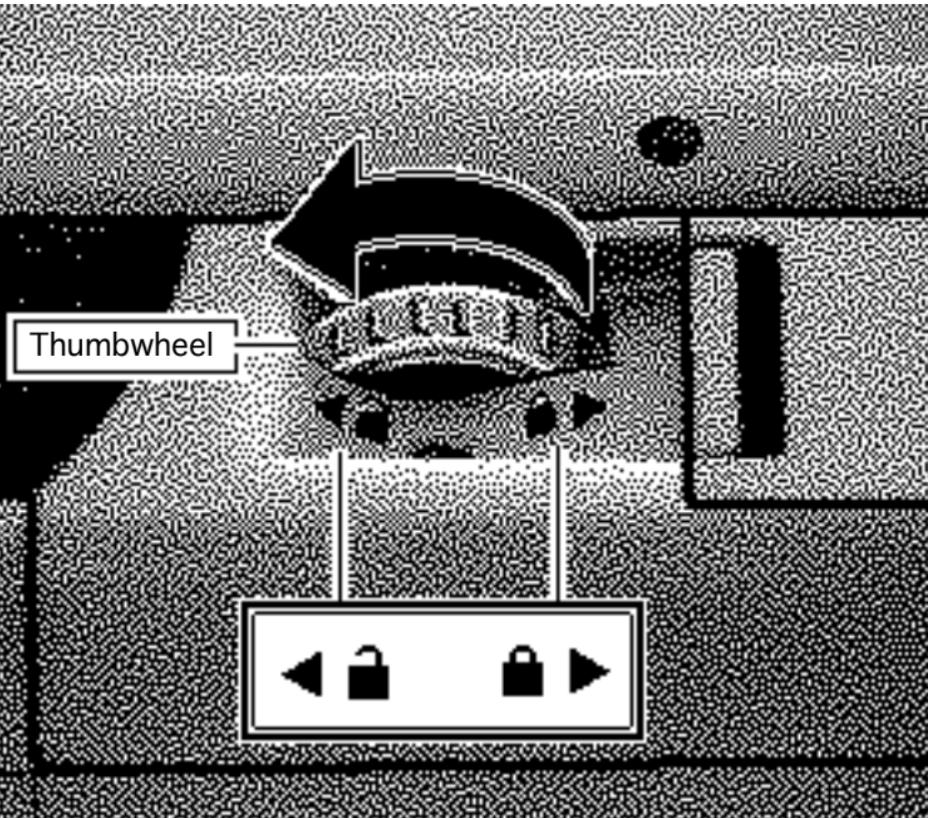
3 Remove the battery attachment from the printer.

Battery Attachment
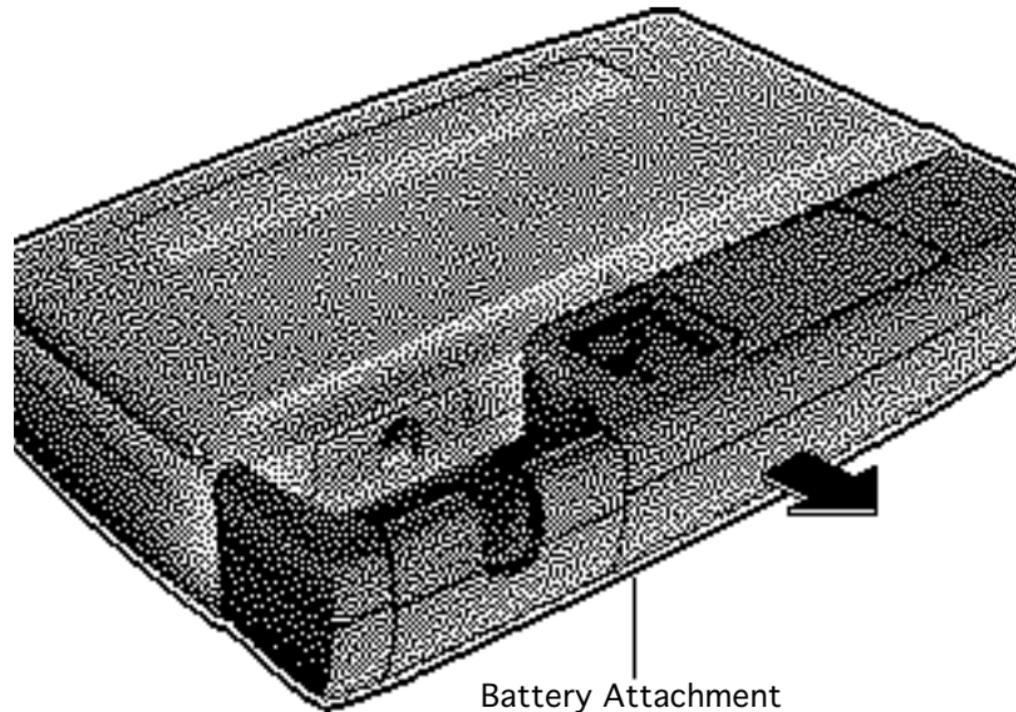
Battery

Battery

No preliminary steps are required before you begin this procedure.
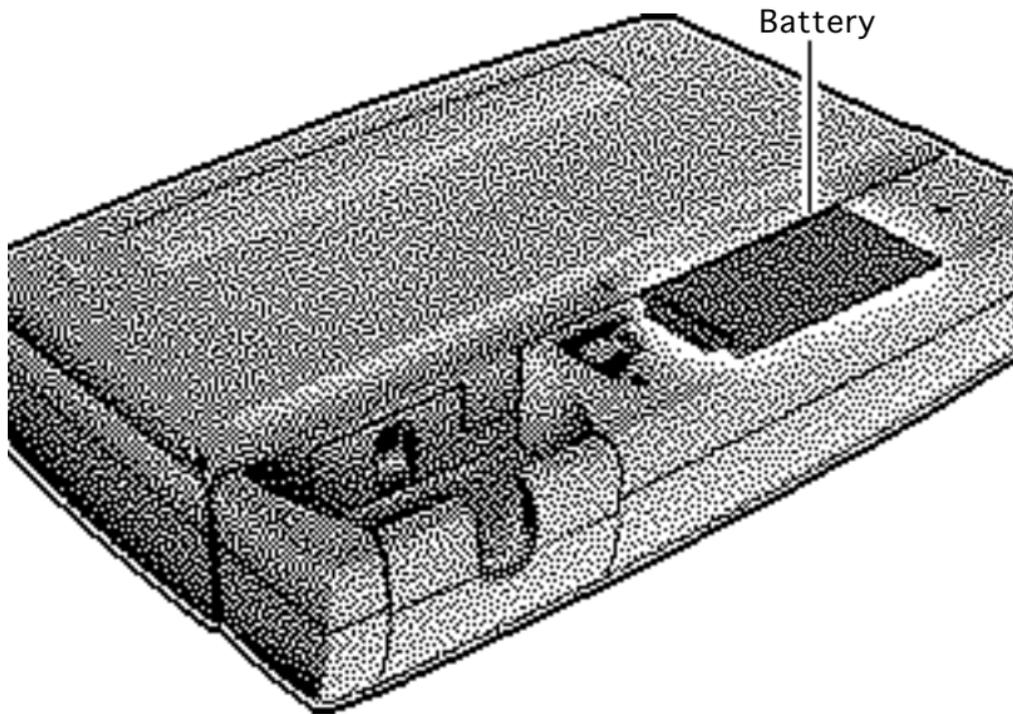
Push in the latch and remove the battery from the printer.

Battery

Latch
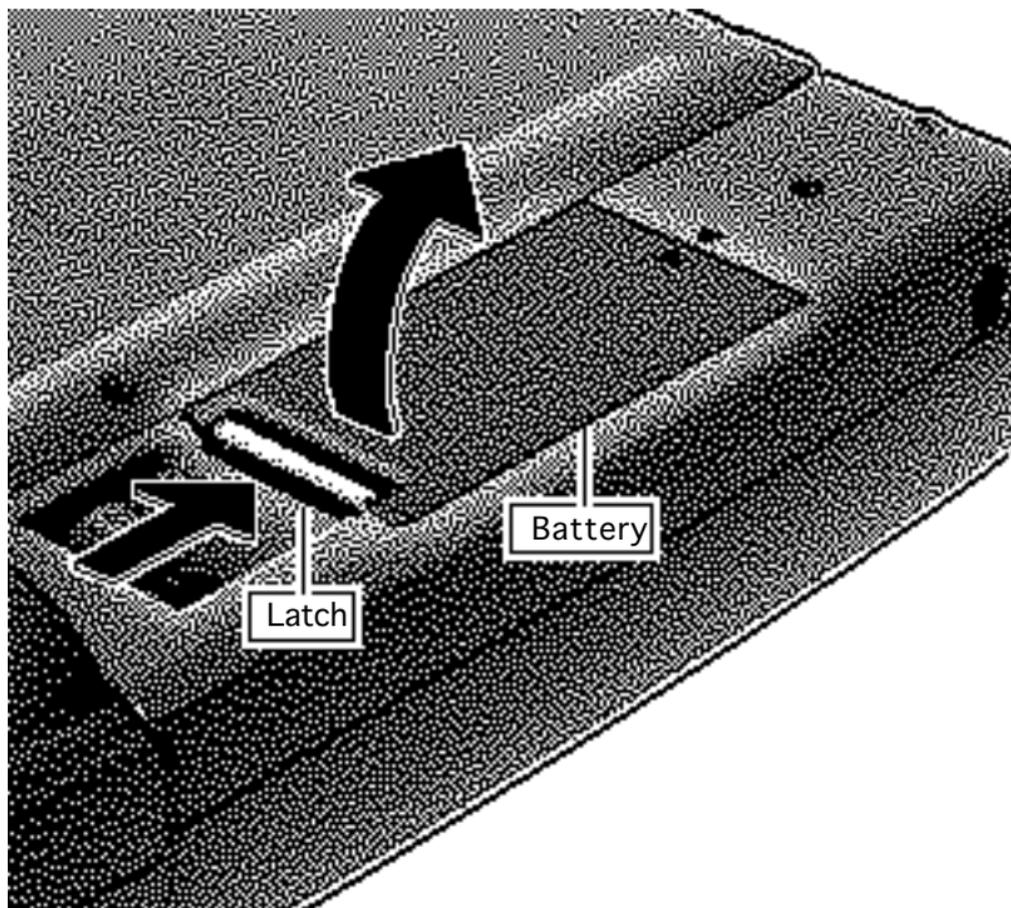
Battery

Replacement Note: Make sure the arrows are lined up before reinstalling the battery.

— Top Cover

— Upper Case
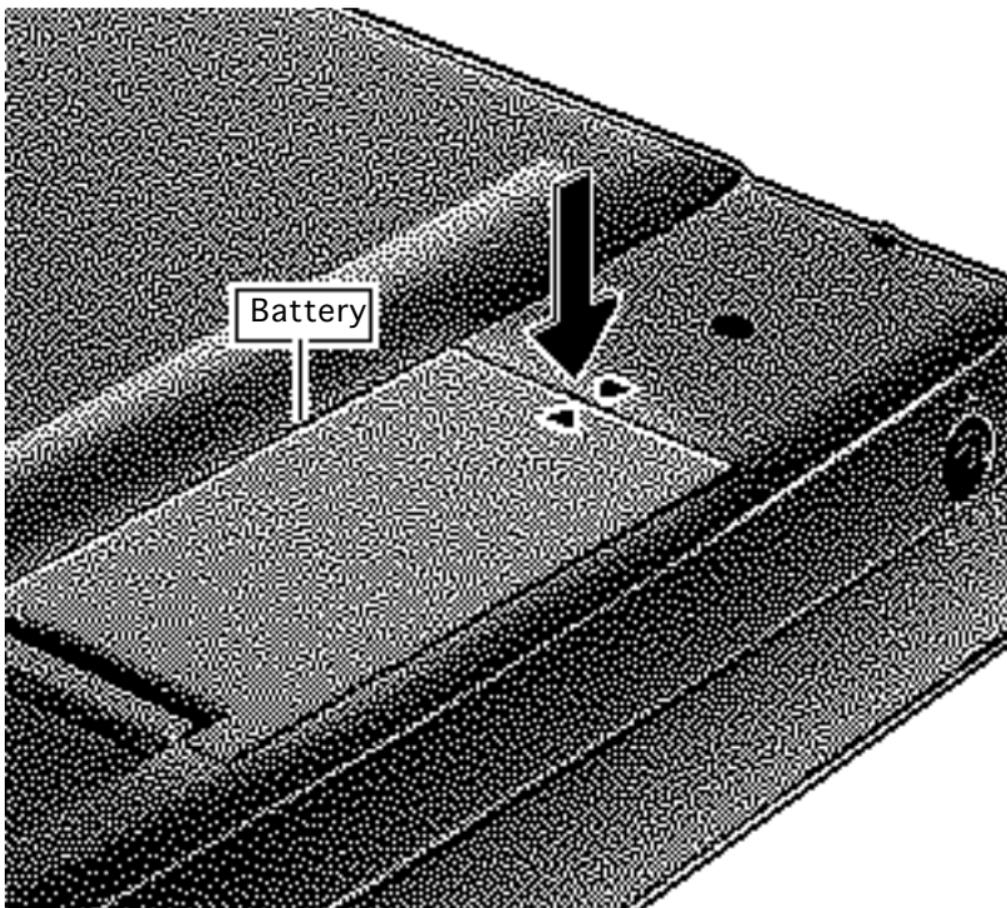
Upper Case Cover

Covers

Before you begin, remove the battery attachment.
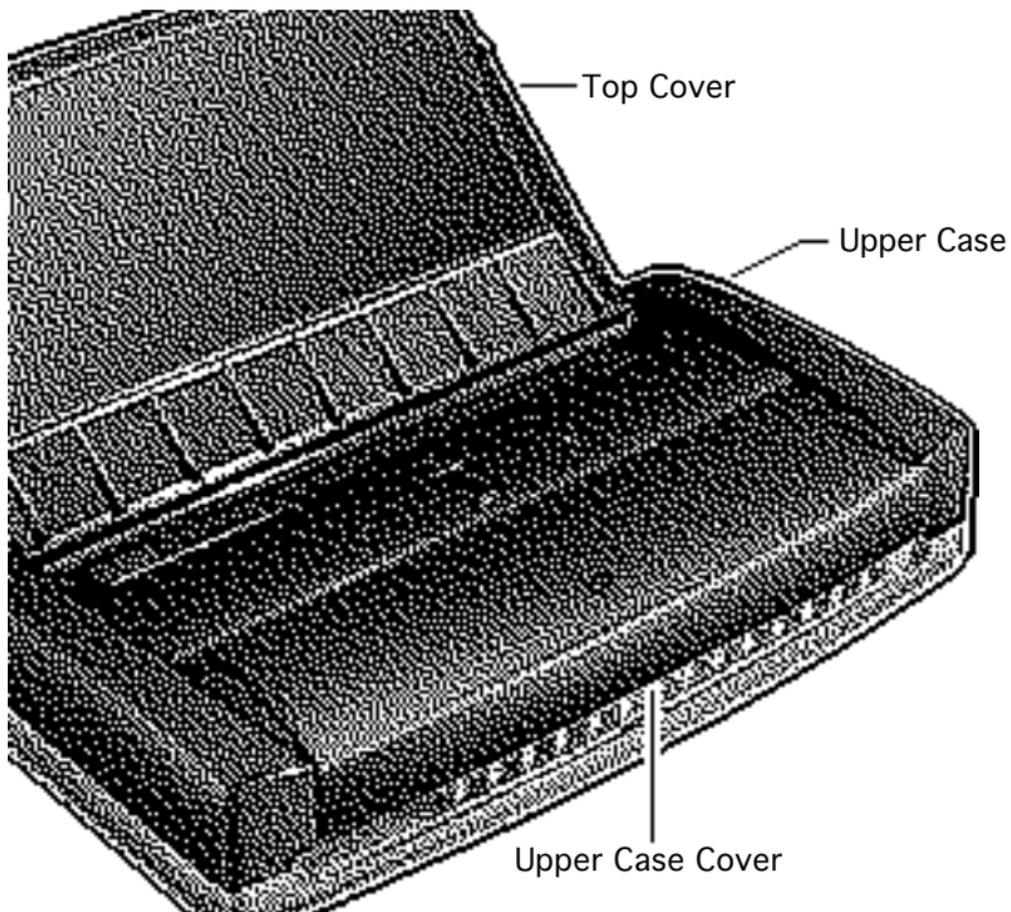
Top Cover

Top Cover

Hold the cover upright and bend the cover slightly to release the side mounting tabs. Remove the top cover from the printer.
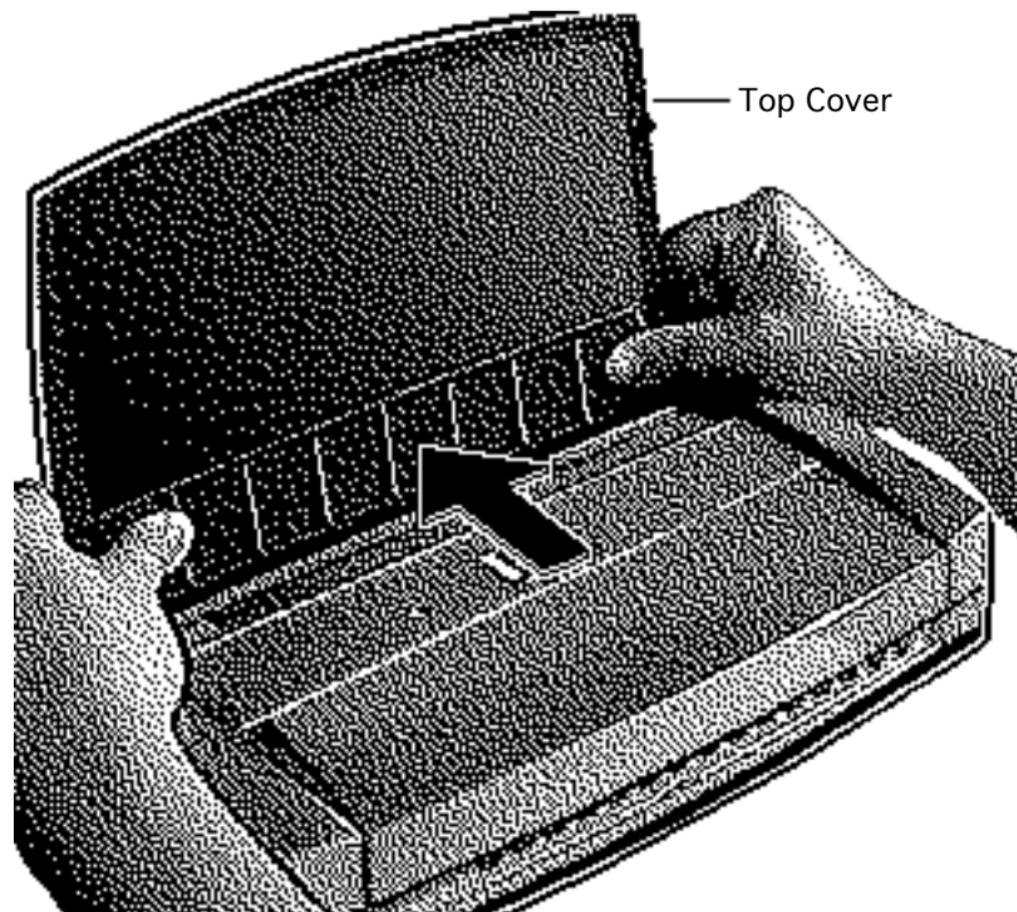
Upper Case Cover

1 Pull back the two latches to open the upper case cover.
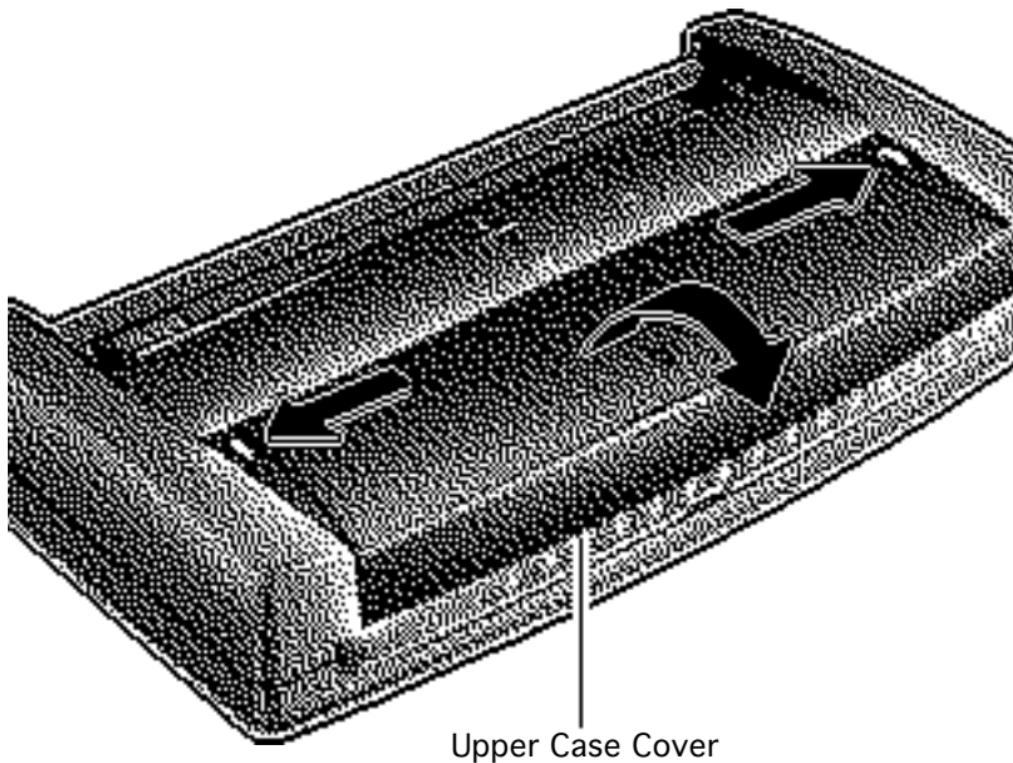
Upper Case Cover
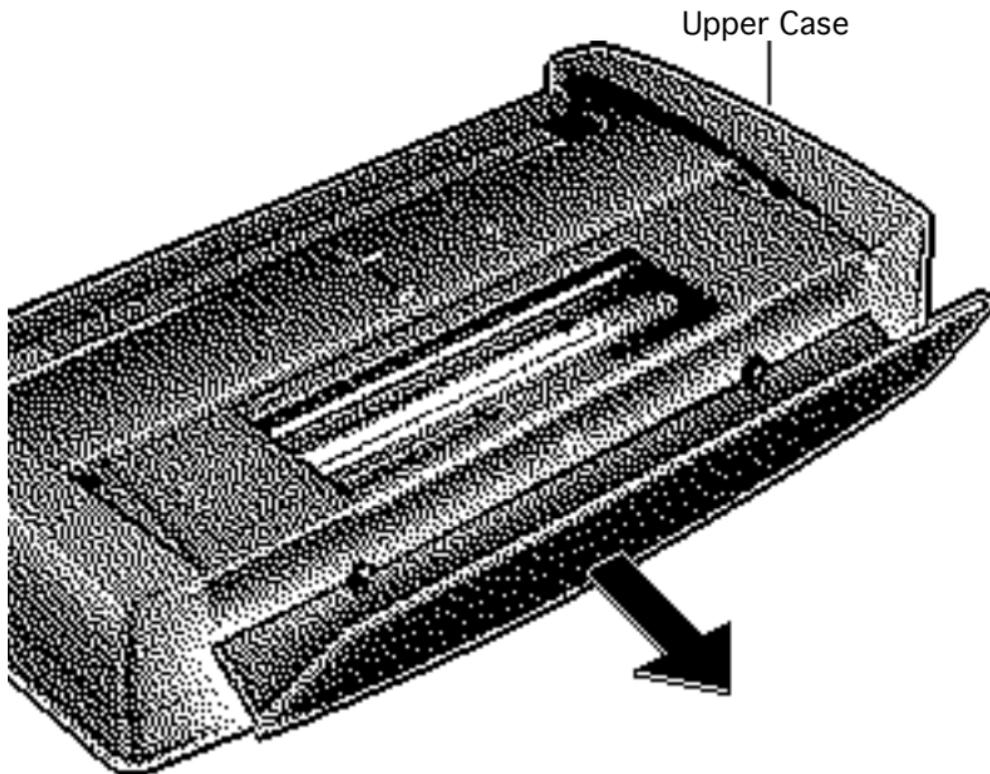
Upper Case

2 Lift up the printer slightly.

3 Pull down and remove the upper case cover from the printer.

   Replacement Note: The mounting tabs are notched so that the cover must be in the full open position when reinstalled. Hold the upper case cover firmly in the position shown and snap it back in place.

Upper Case

Upper Case

1   Using a Phillips screwdriver, remove the screw.

2   Using a small flat-blade screwdriver, press in the two latches on the front of the printer. Slightly lift up the front of the upper case.

3   Using a small flat-blade screwdriver, press in the two latches on the bottom of the printer and remove the upper case from the printer.
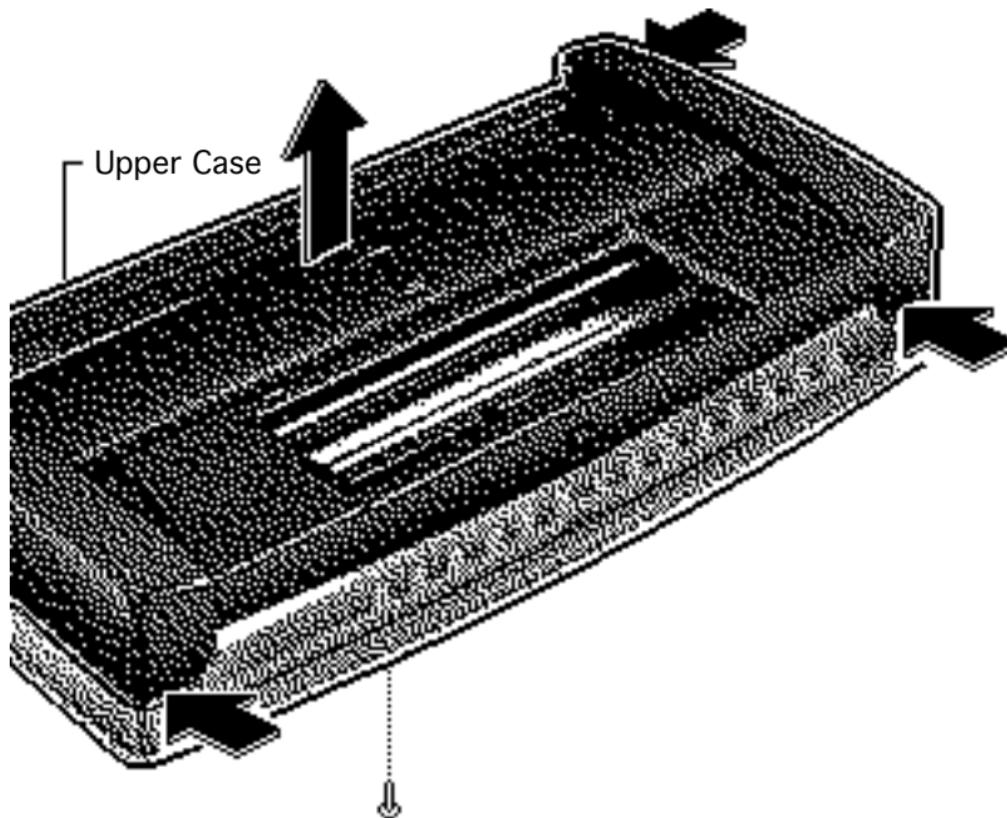
Lock Plate

Remove the lock plate from the printer.
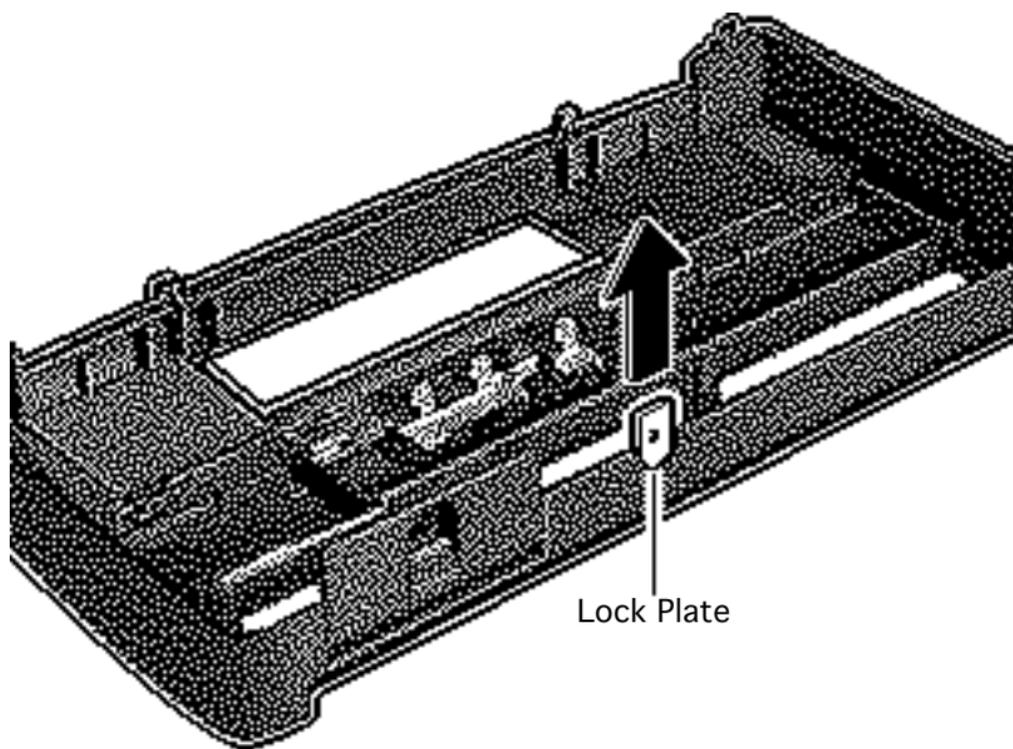
Lock Plate

Panel Board

Panel Board

Before you begin, remove the following:

- Battery attachment
- Covers
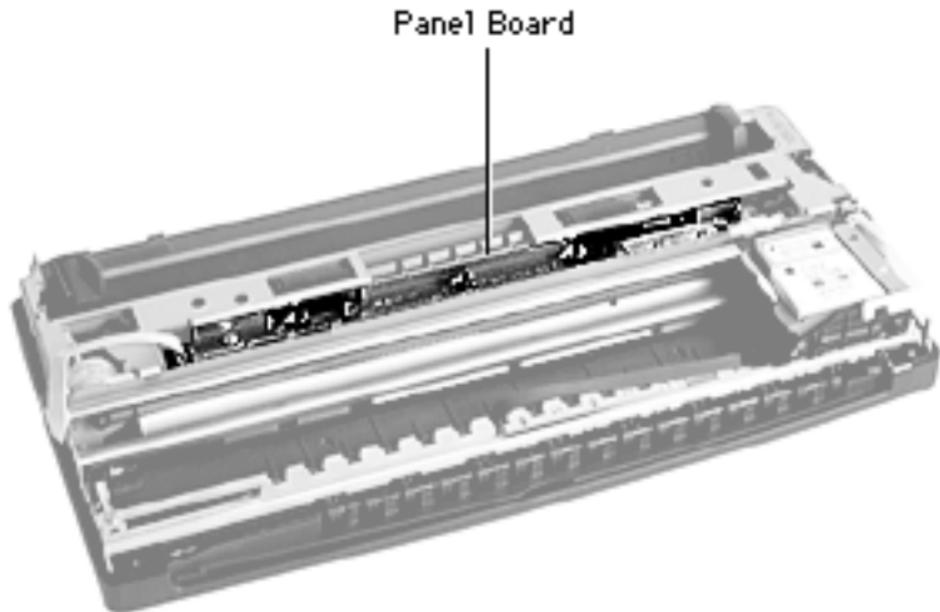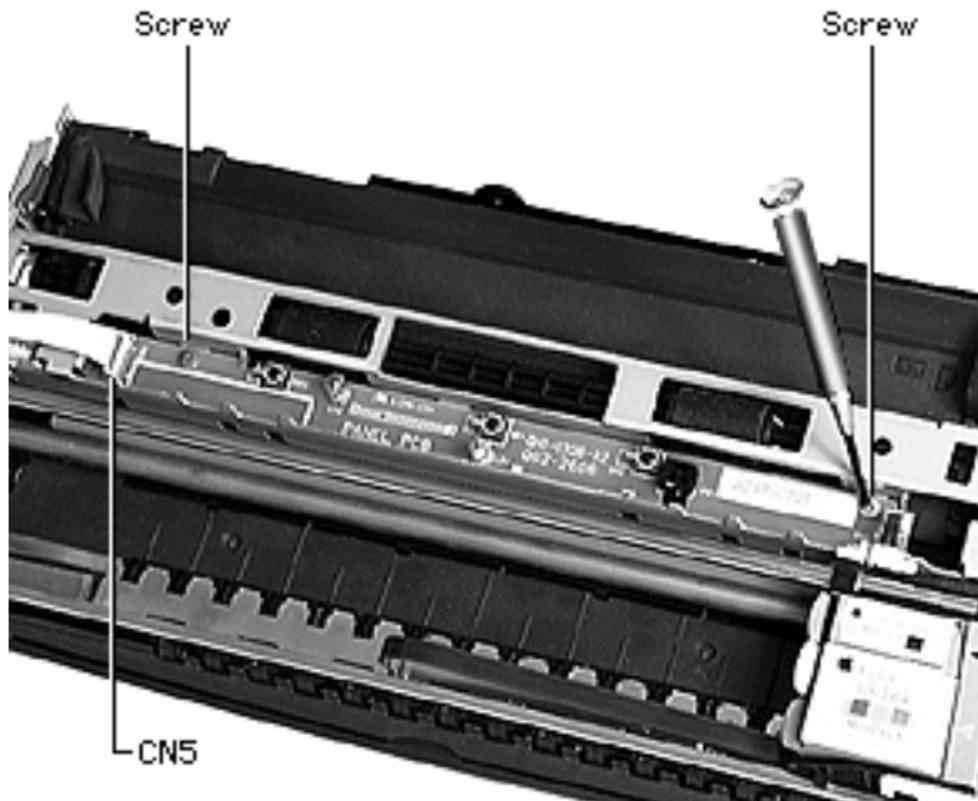
1 Remove the ribbon cable from connector CN5 at the end of the panel board.

2 Using a #0 Phillips jeweler's screwdriver, remove the two screws.

CN6

3 Tilt the board up, and gently remove the ribbon cable from connector CN6.

Print Unit Assembly

Left Latch

Right Latch

Print Unit Assembly

Before you begin, remove the following:

- Battery attachment
- Covers
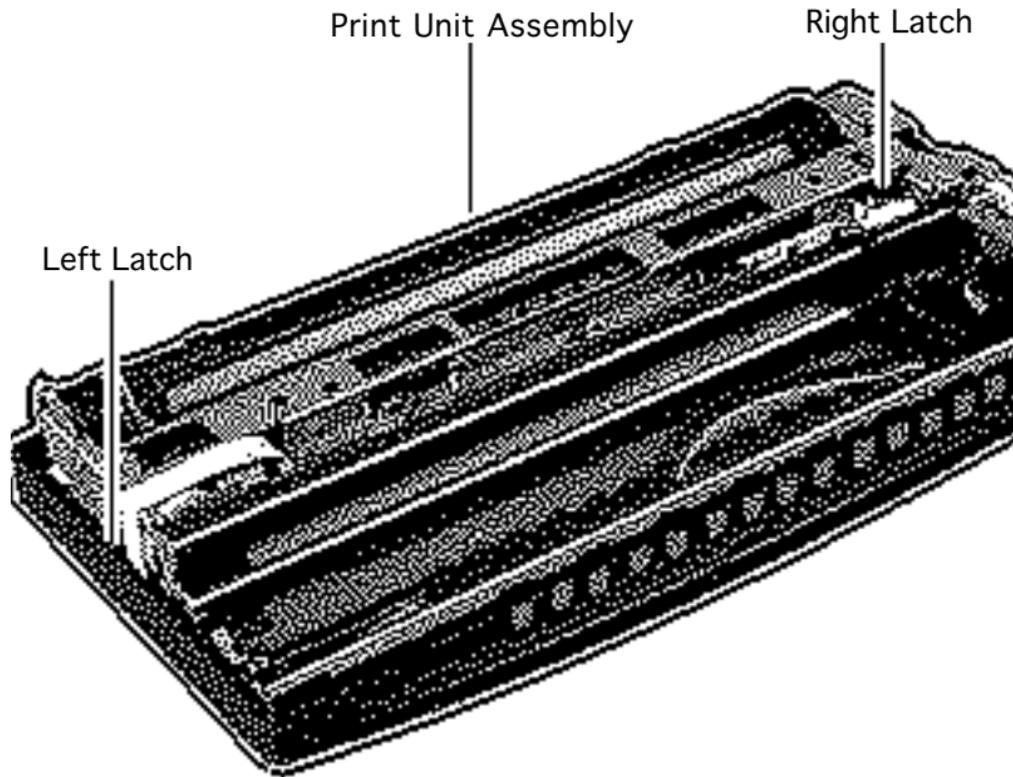
Left Side Latch

1 **Note:** There are cables attaching the print unit assembly to the controller board. Do not remove the print unit assembly until these cables have been disconnected.

Release the left side latch and lift up the print unit assembly slightly.
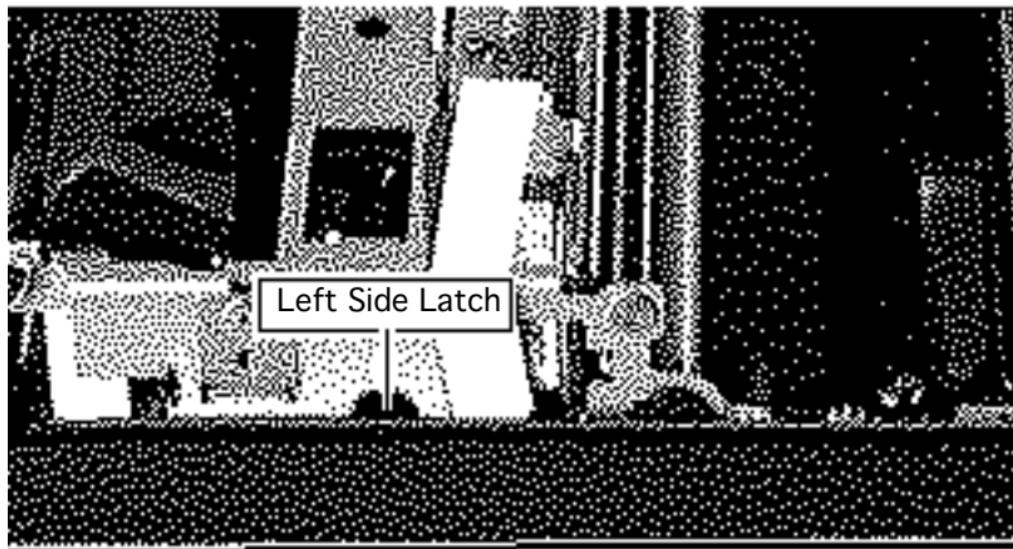
2 Release the right side
   latch and lift up and hold
   the print assembly.

Right Side Latch

CNCR1   CNSW1   Controller Board   CNH1   CNLF
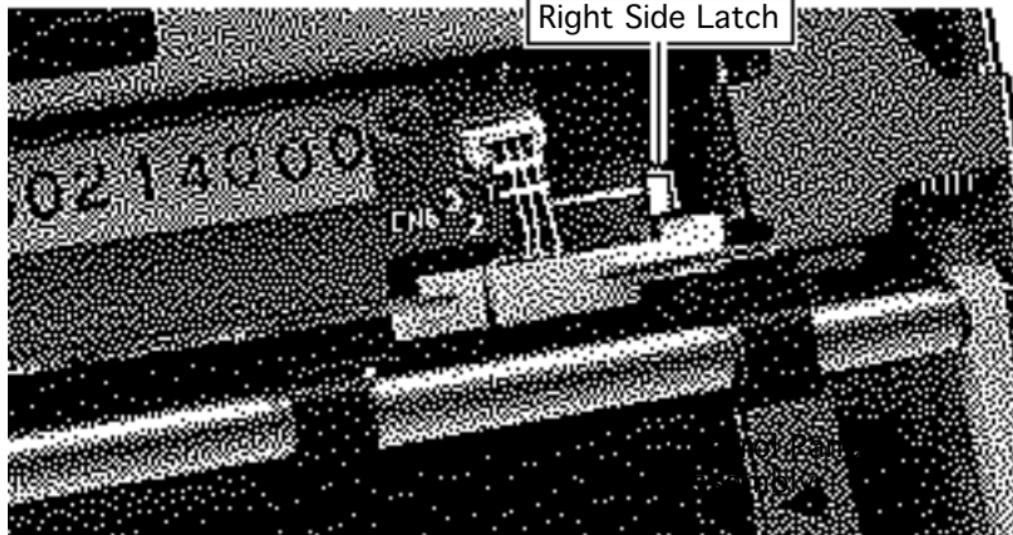
3 Lift up and reach under the print unit assembly to disconnect the four ribbon cables on the controller board:
   • CNH1 (with latch)
   • CNLF
   • CNSW1 (with latch)
   • CNCR1

4 Remove the print unit assembly from the printer.
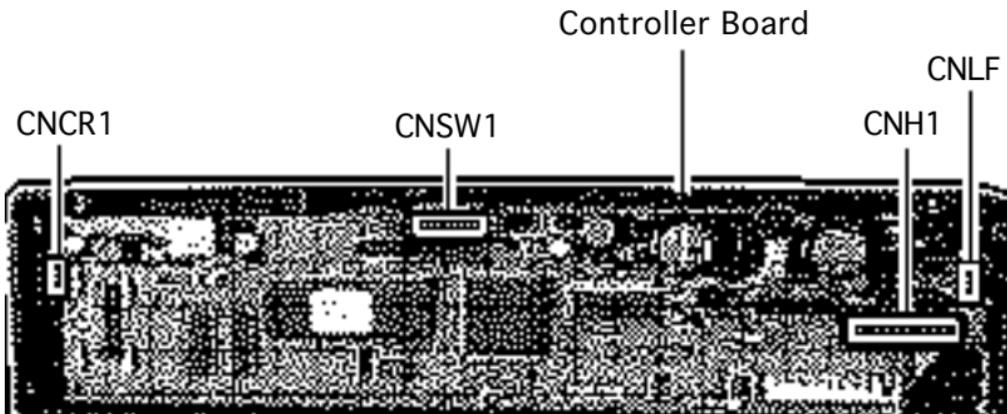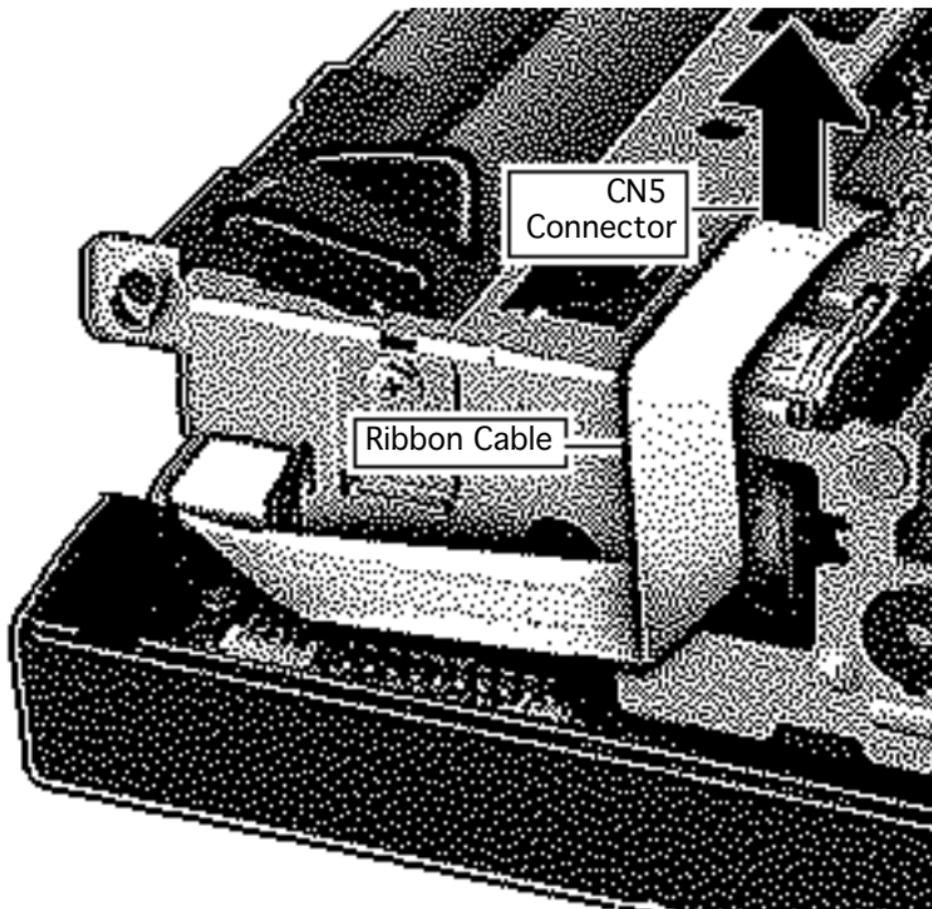
5   Remove the ribbon cable
    from connector CN5 on
    the print unit assembly.

    Replacement Note: The
    ribbon cable is not part
    of the print unit
    assembly. Remove this
    cable before returning
    the print unit assembly
    to Apple.
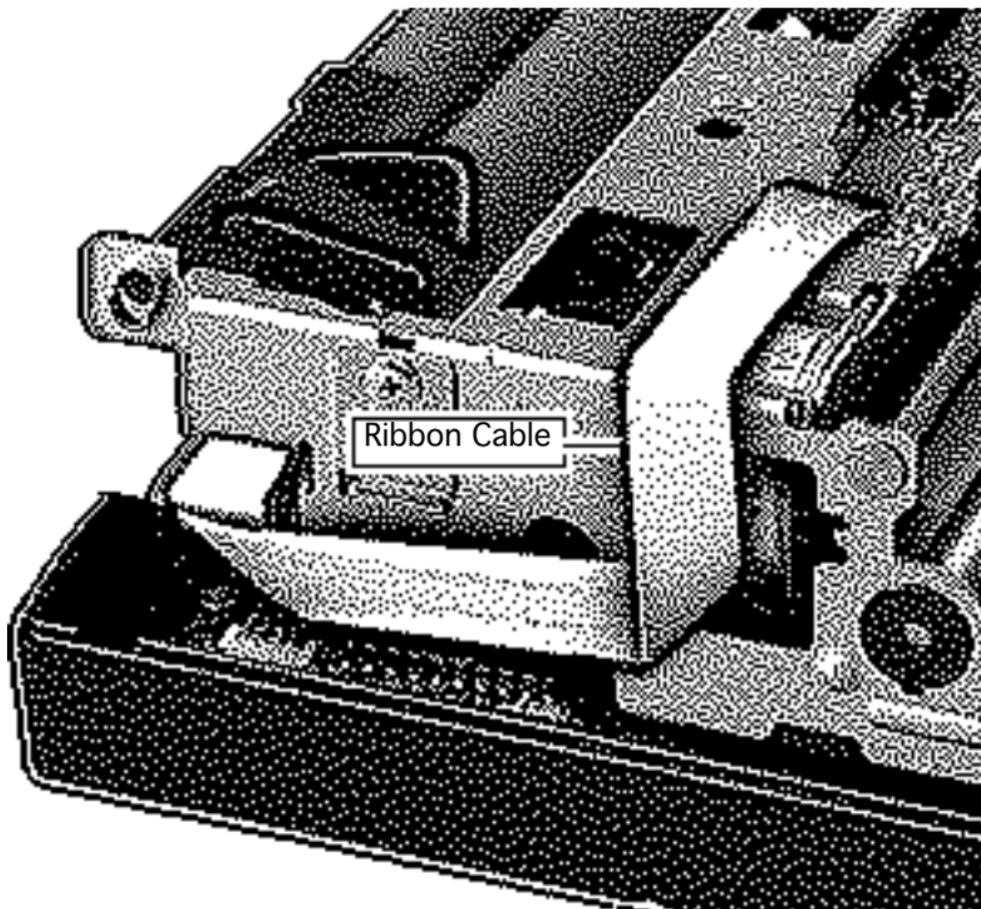
Ribbon Cable

6 **Replacement Note:** Make sure the ribbon cable is routed properly before reinstalling the print unit assembly.

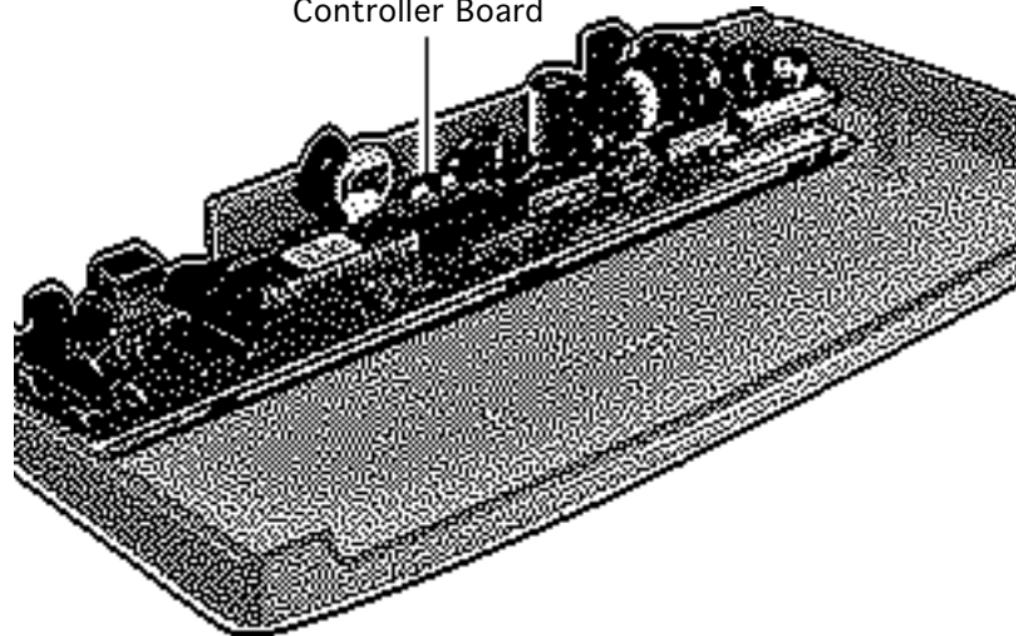Improper installation of this cable could damage the cable.

Controller Board

Controller Board

Before you begin, remove the following:

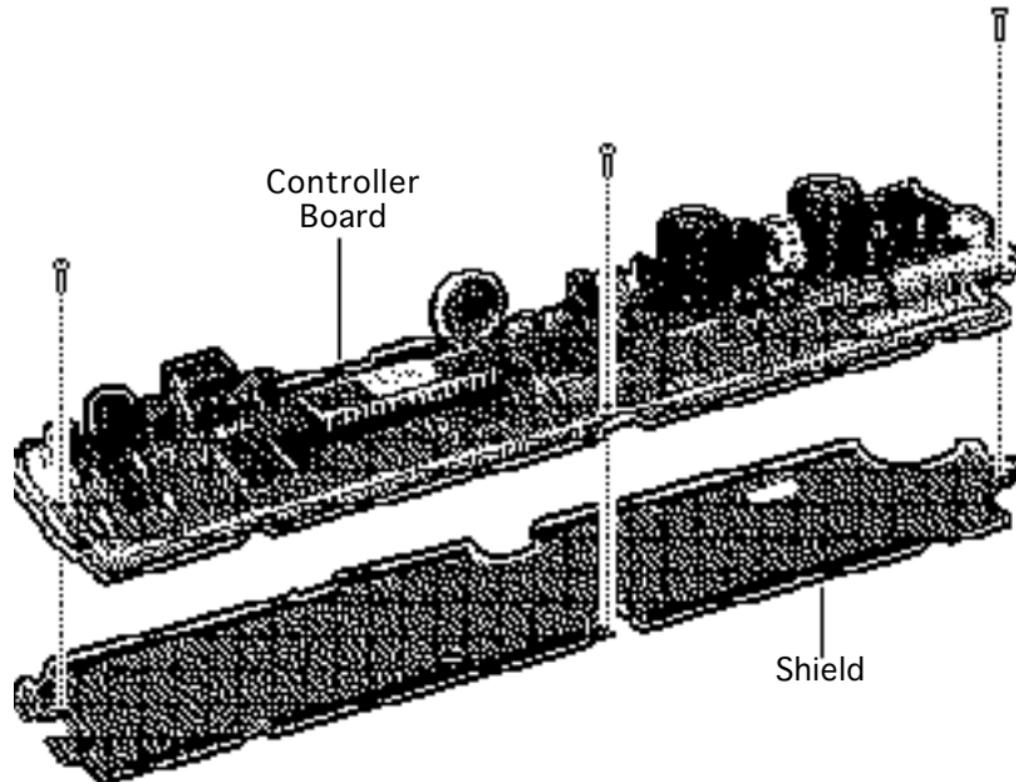- Battery attachment
- Covers
- Print unit assembly

1 Release the two latches and remove the controller board from the printer.

Latch

Controller Board

Latch
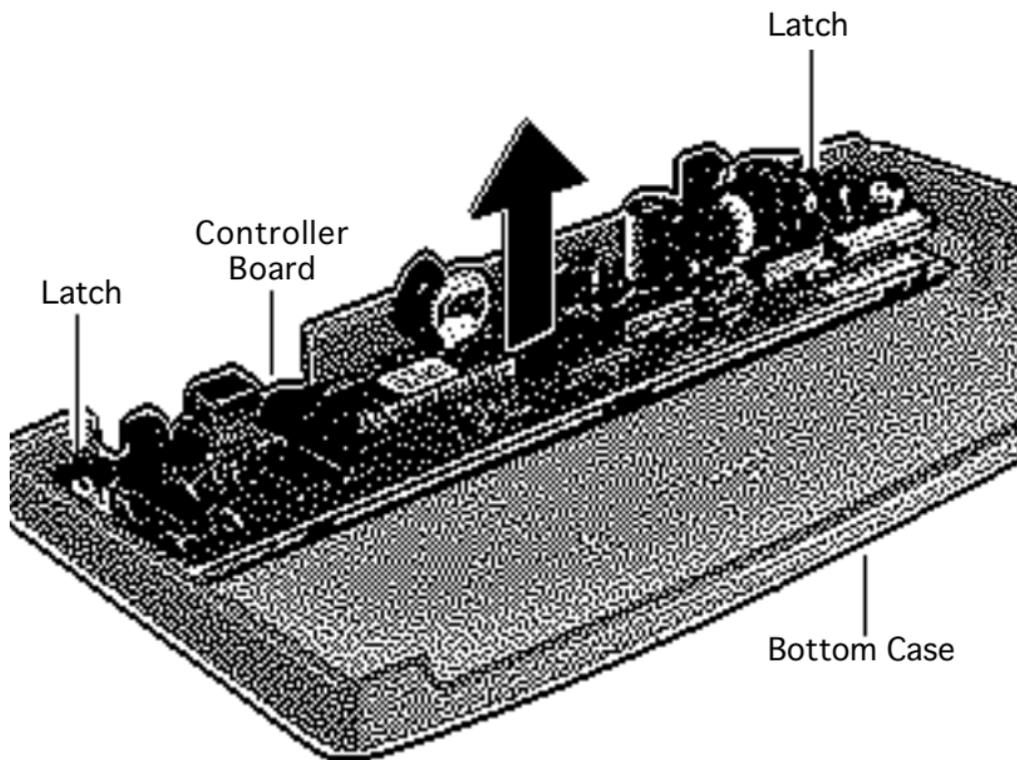
Bottom Case

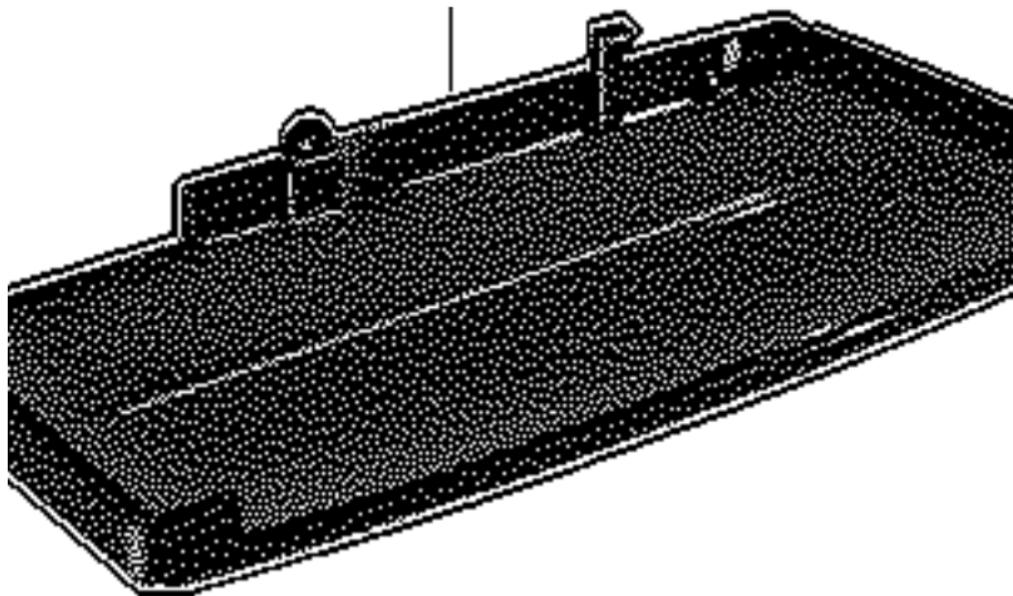2 Using a small Phillips screwdriver, remove the three screws and remove the controller board from the shield.
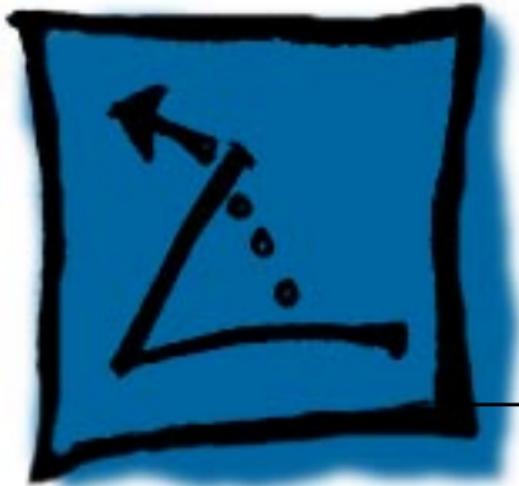
Controller Board

Shield

Bottom Cover

Bottom Case

Before you begin, remove the following:

- Battery attachment
- Covers
- Print unit assembly
- Controller board

Perform the above steps.

Additional Procedures

Color StyleWriter 2200

Top Cover

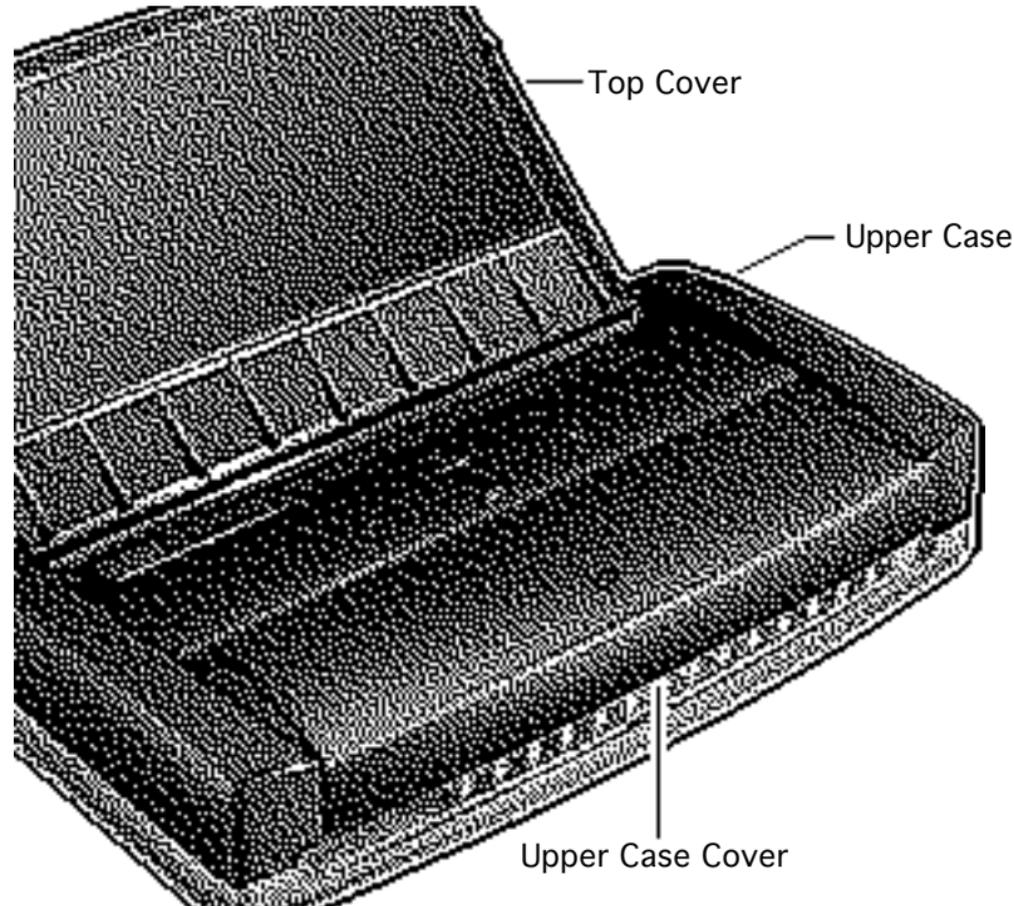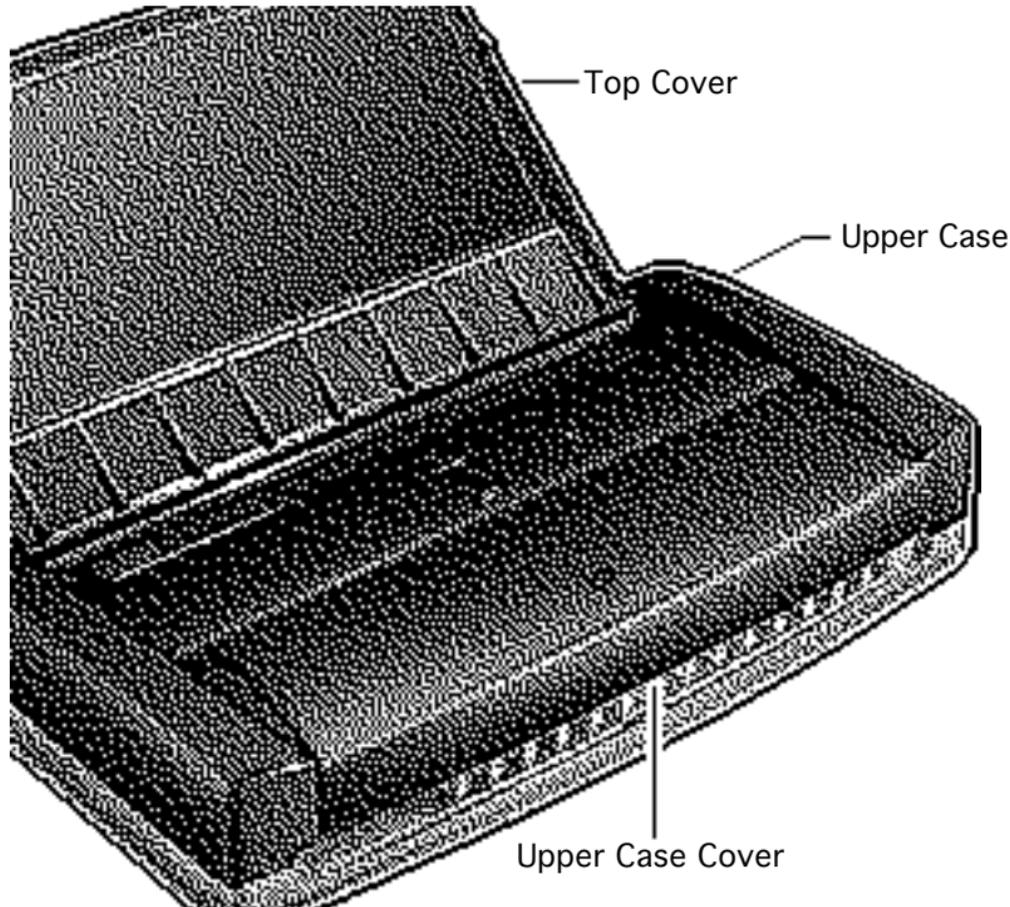Upper Case

Upper Case Cover

Printer Cleaning

Before you begin, unplug the printer.

Caution: Do not use ammonia-based or alcohol-based cleaners on or around the printer. These cleaners may react with the plastic.

Caution: Do not spill liquid in the power cord receptacle.
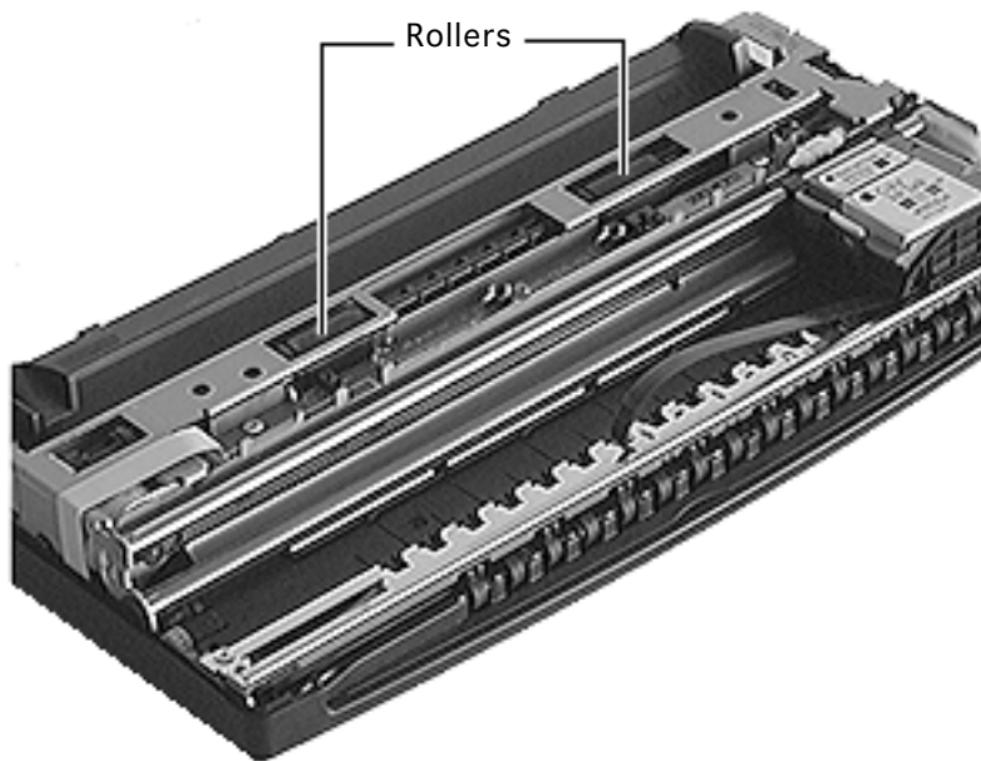
Top Cover

Upper Case

Upper Case Cover

1 **Caution:** Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.

Using a damp cloth, wipe the outside of the printer covers.

2 **Caution:** Do not use any liquid cleaners inside the printer.

Remove the top cover, upper case cover, and upper case from the printer.
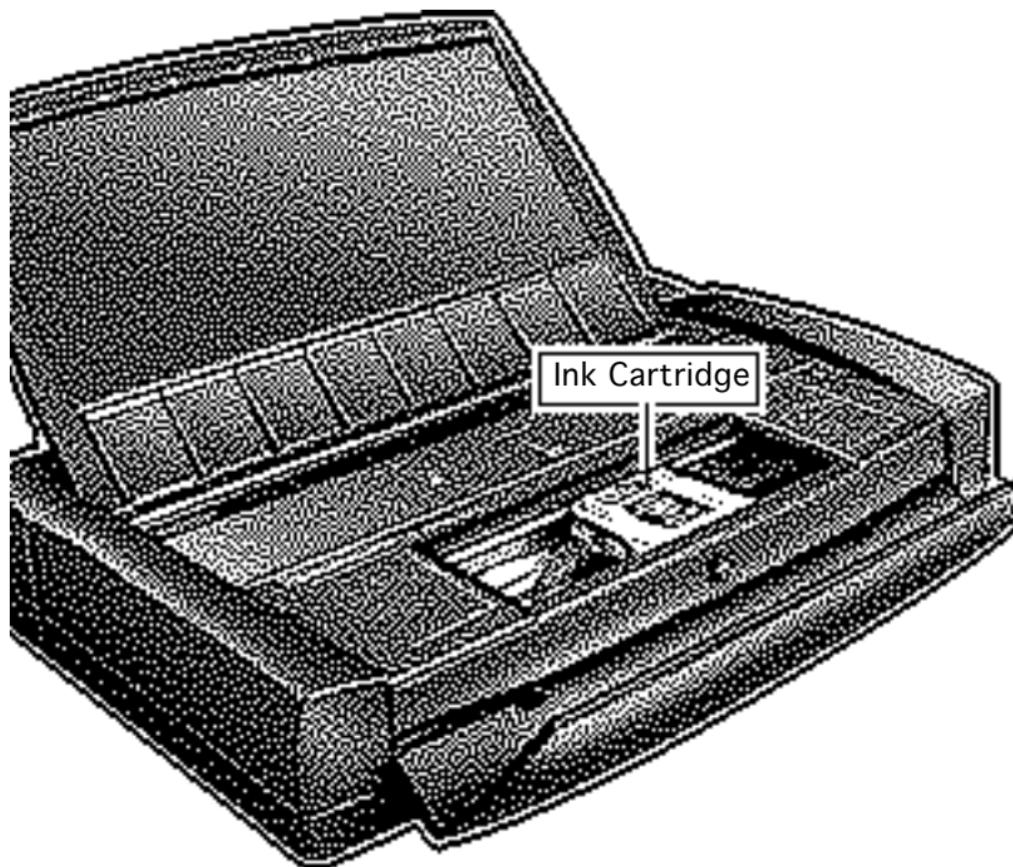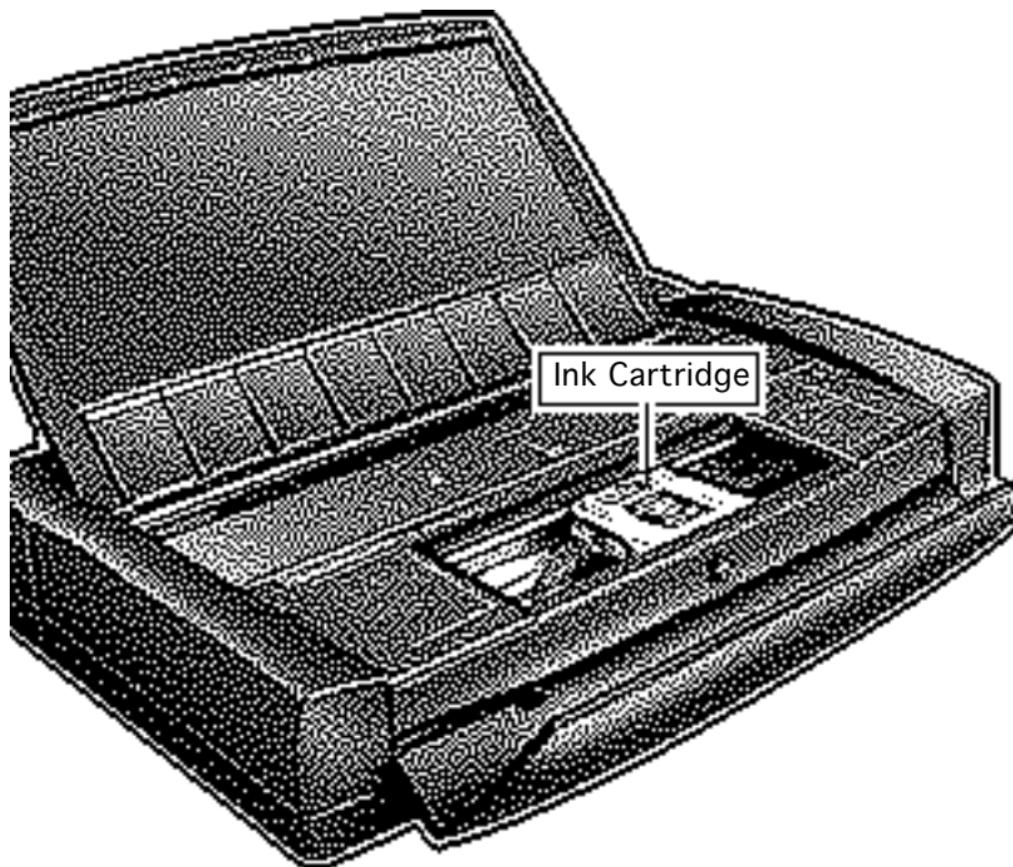
3 Using a dry cloth, carefully wipe the rollers.

Rollers

Ink Cartridge

Ink Cartridge Replacement

No preliminary steps are required before you begin this procedure.

Caution: Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.
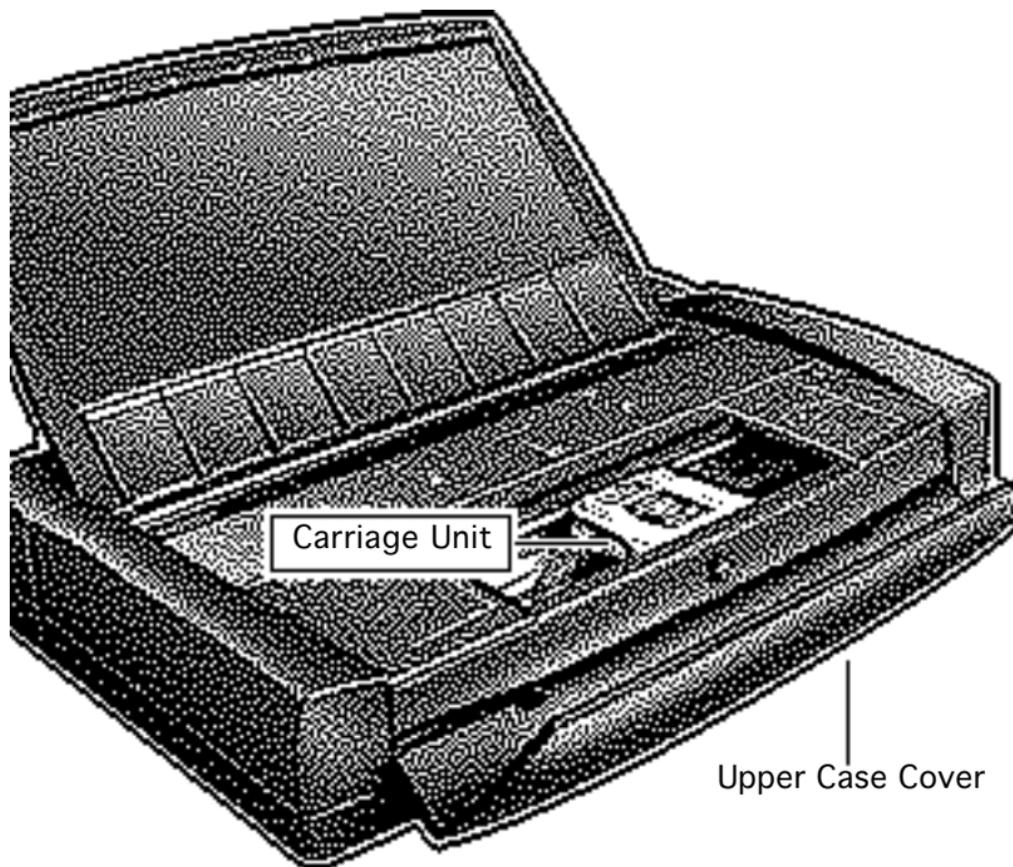
Ink Cartridge

Note: This procedure covers the ink cartridge replacement for either of the ink cartridges that come with the printer. One cartridge is black ink only, with one black ink tank; the other is a four-color ink cartridge with two ink tanks. One tank contains black ink only and the other tank contains the cyan, magenta, and yellow inks.
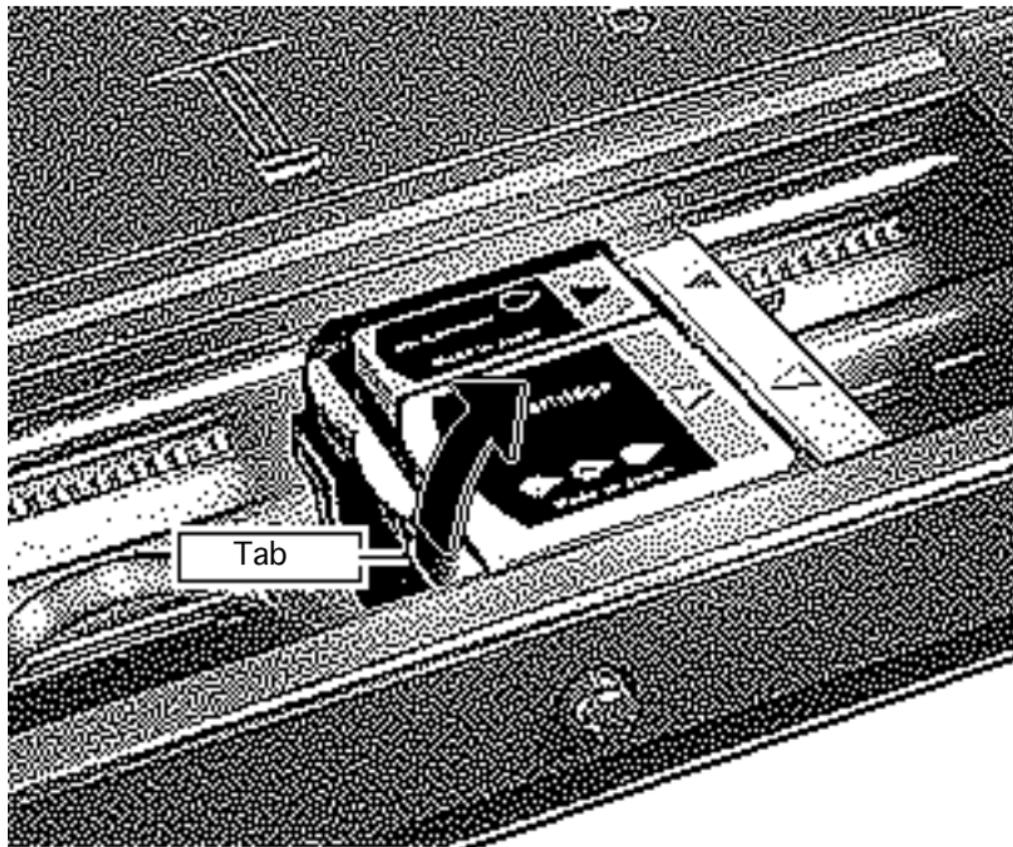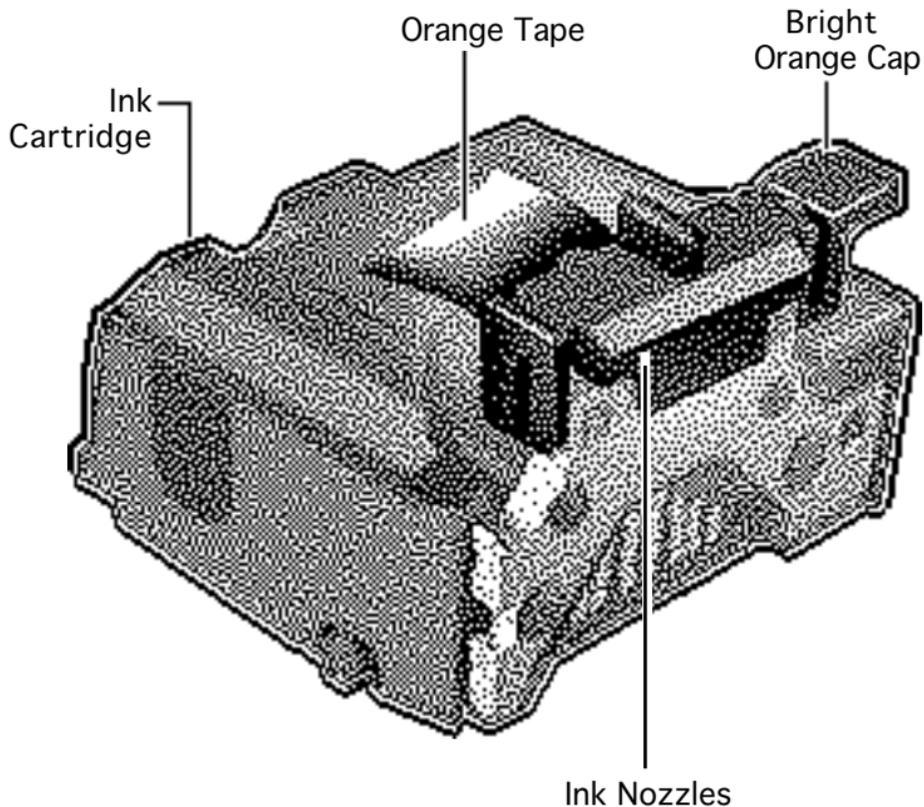
1 Turn on the printer.

2 Open the upper case cover. The carriage unit will now move to the center position.

Carriage Unit

Upper Case Cover

Tab

3 Lift up the ink cartridge tab and remove the ink cartridge.

Ink Cartridge

Orange Tape

Bright Orange Cap

Ink Nozzles

4 **Caution:** To prevent the print heads from clogging, do not touch or wipe the ink nozzles.

Remove the bright orange cap and orange tape from the replacement ink cartridge.

Purge Button

Ink Cartridge

5 Install the replacement ink cartridge into the printer.

6 Close the printer cover.

7 Turn on the printer and press the purge button after replacing the ink cartridge.

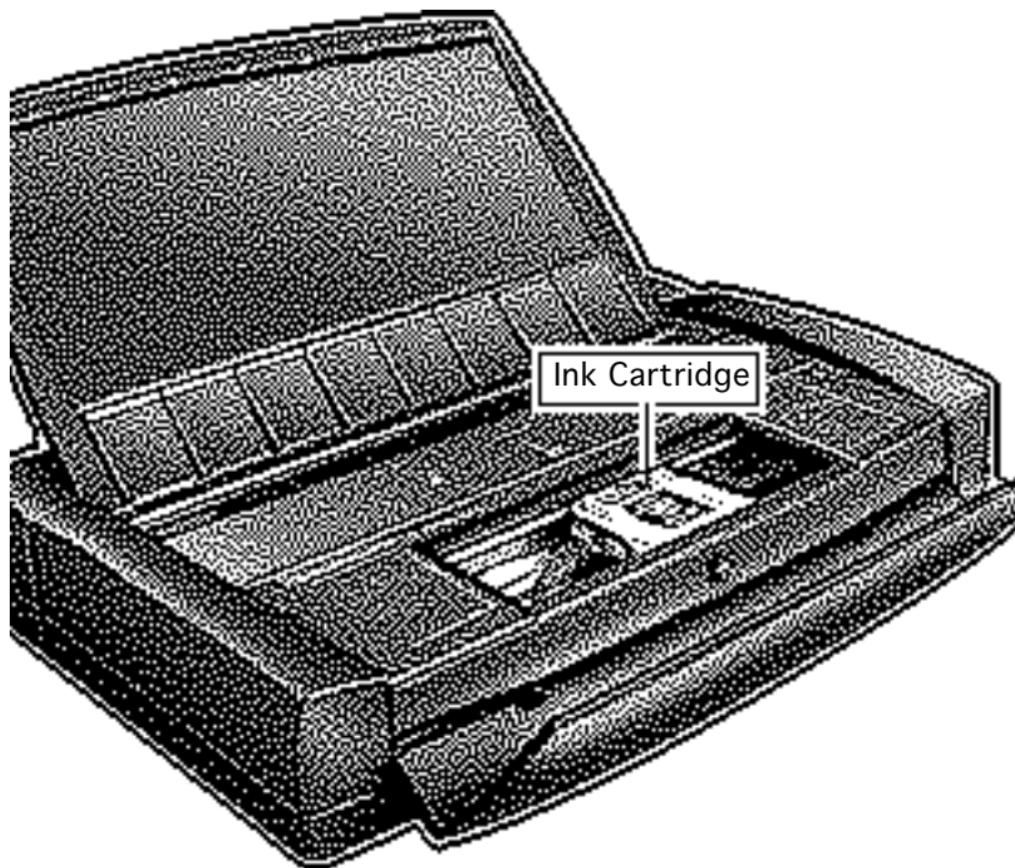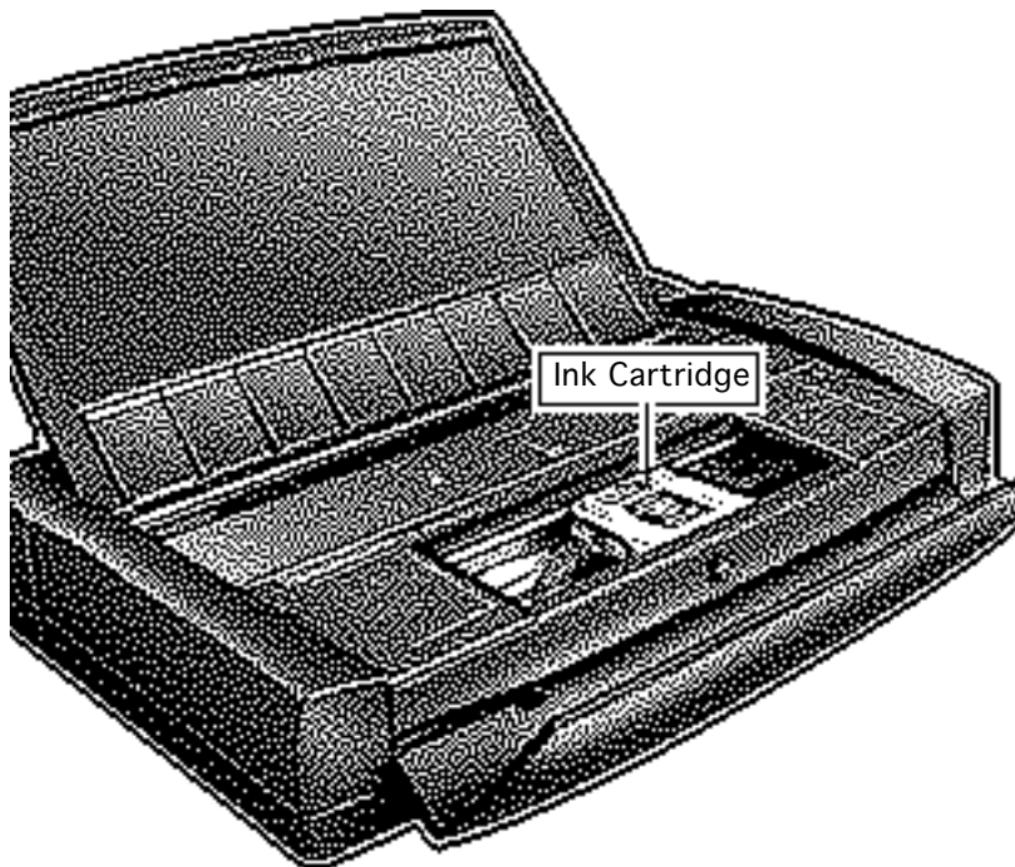Ink Cartridge

Ink Tank Replacement

No preliminary steps are required before you begin this procedure.

Caution: Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.

Ink Cartridge

Note: This procedure covers ink tank replacement for the four-color ink cartridge. The cartridge contains two separate ink tanks, one for black ink and one for cyan, magenta, and yellow inks. When you run out of ink, you can replace only the empty tank, instead of replacing the entire cartridge.

Ink Tank

1. Turn on the printer.

2. Open the front cover. The carriage unit will now move to the center position.

3. Remove and discard the old ink tank.
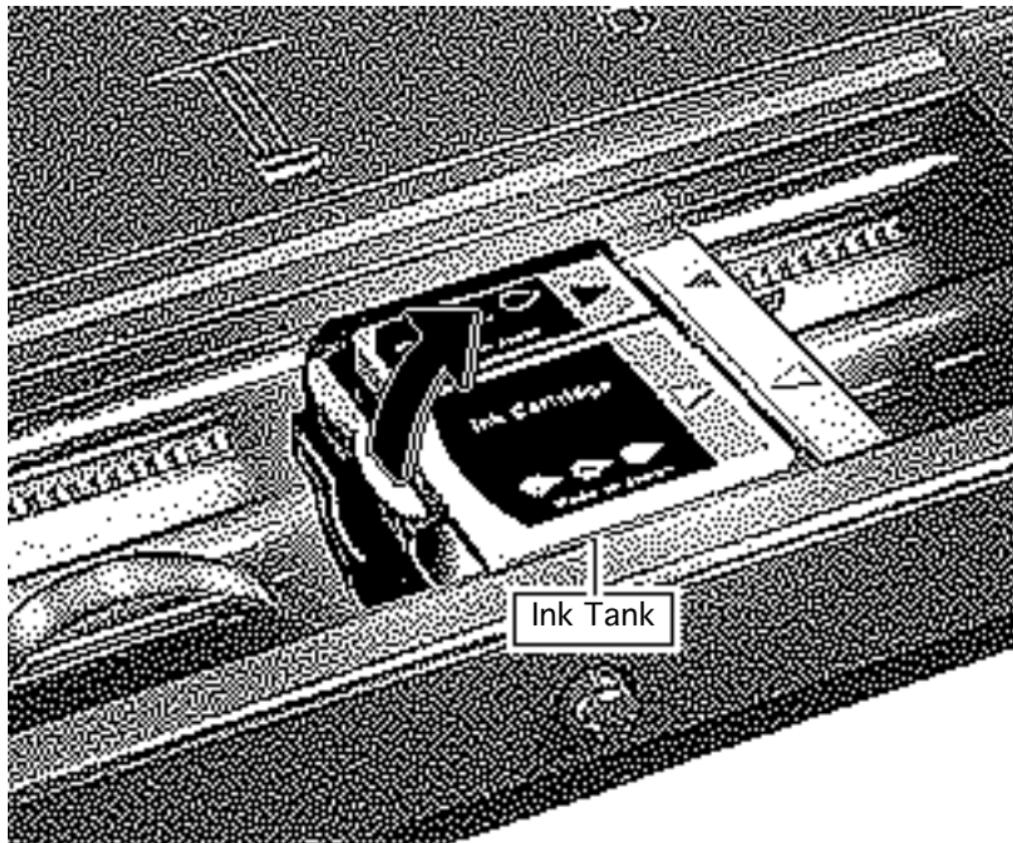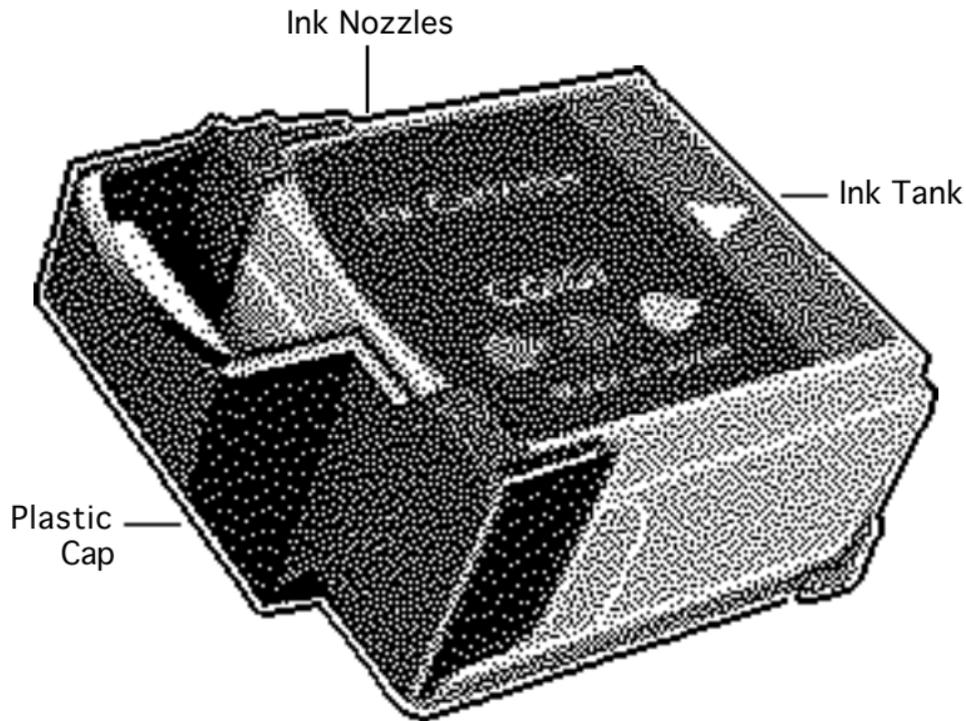
Ink Nozzles

Ink Tank

Plastic Cap

4 **Caution:** To prevent the print heads from clogging, do not touch or wipe the ink nozzles.

Remove the plastic cap from the replacement ink tank.

Purge Button

Ink Cartridge
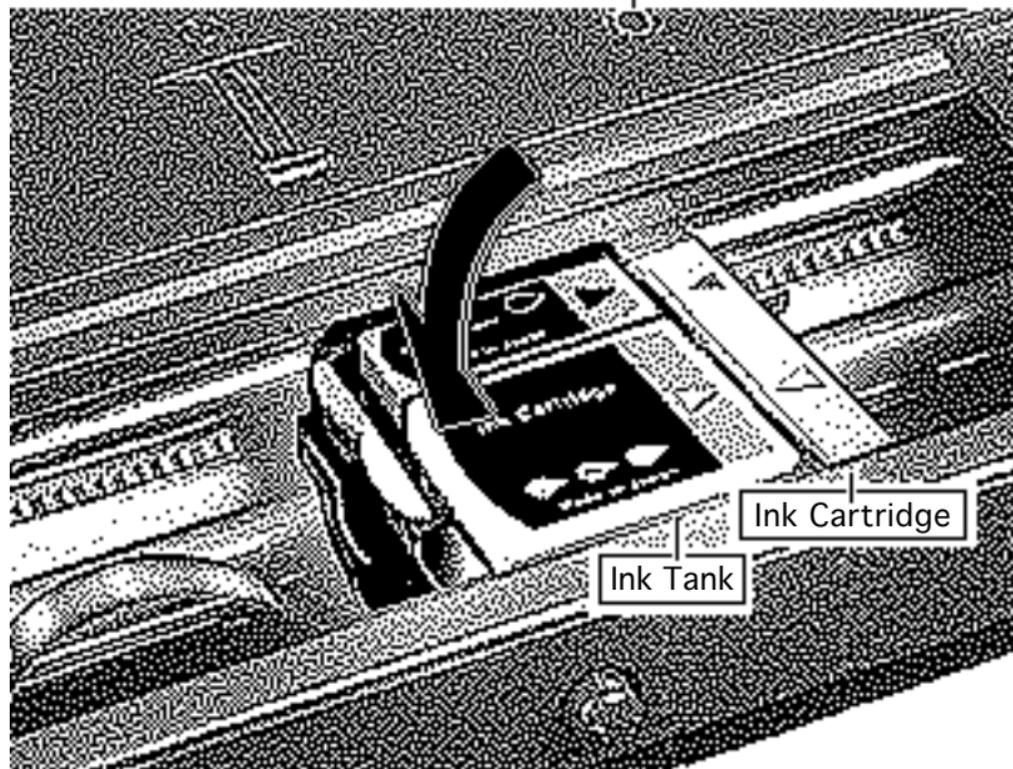
Ink Tank

5 **Caution:** Make sure you install the color ink tank and the black ink tanks in the proper positions.

6 Slide the ink tank into the ink cartridge and push down so the ink tank snaps into place.

7 Close the printer cover.

8 Turn on the printer and press the purge button after replacing the ink tank.

Ink Cartridge

Nozzle Check

No preliminary steps are required before you begin this procedure.

Caution: Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.
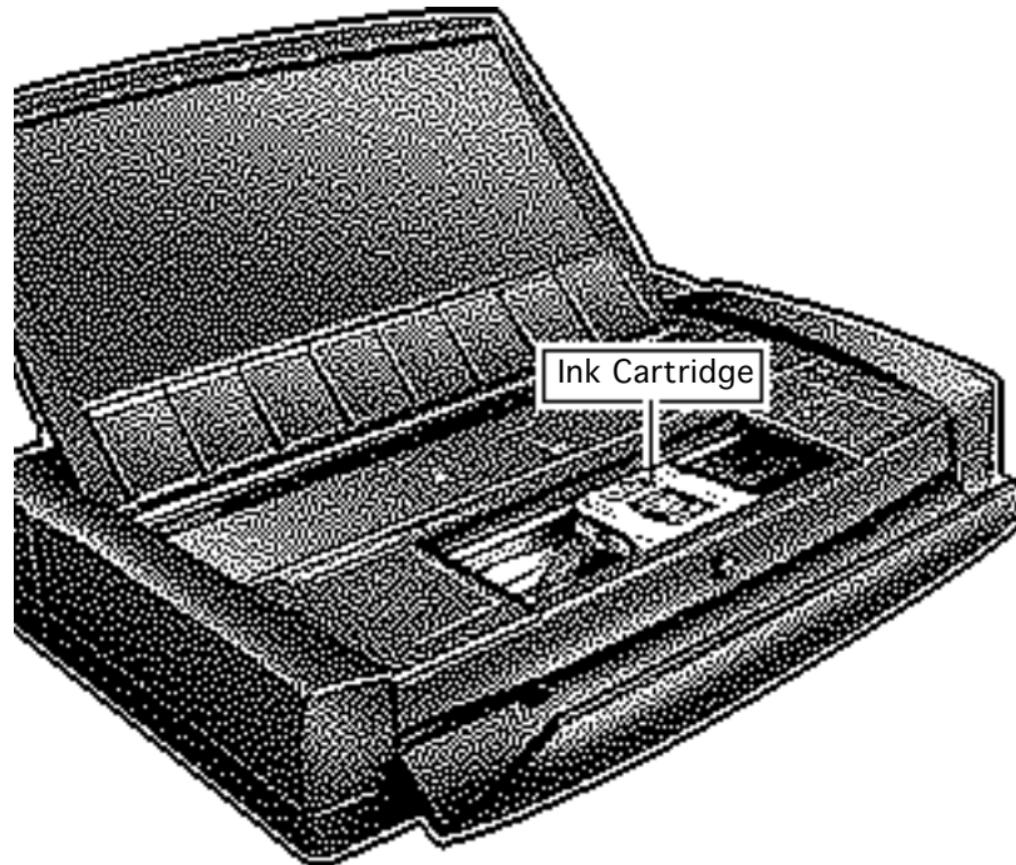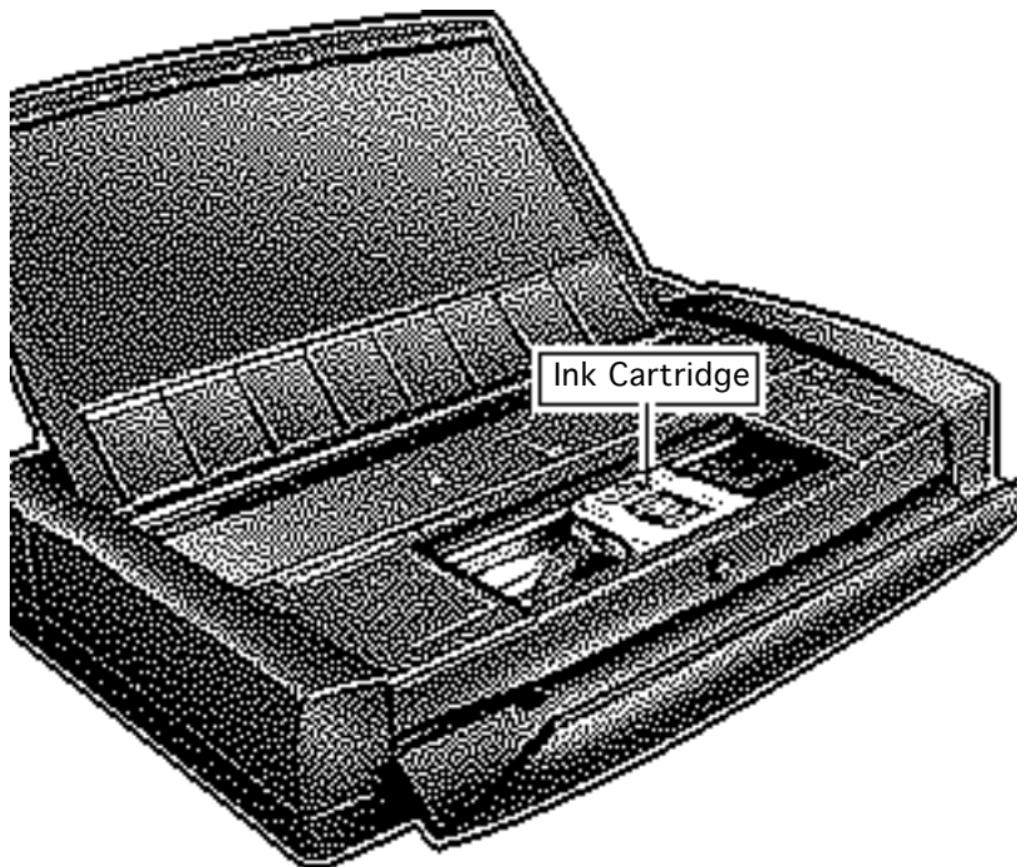
Ink Cartridge

Note: This procedure explains how to run the nozzle check test page, which indicates whether the print nozzles need to be cleaned. The print nozzles are contained in the ink cartridge.

Cut Sheet Feeder

Power LED

Power Key

1 **Important:** Make sure the printer is off.

Load paper into the cut sheet feeder.

2 Hold down the power key until the LED goes out. The printer will now print out a test page.

Nozzle Status OK

```
    ┌───┬────┬────┬───┬───┬───┐                          Yellow
    ├───┼────┼────┼───┼───┼───┤                          Magenta
    ├───┼────┼────┼───┼───┼───┤                          Cyan
┌───┬────┬────┬────┬────┬────┬────┬────┐                 Black
```

Clean Nozzles

```
    ┌ ─ ┬ ─ ─ ┬ ─ ─ ┬ ─ ┬ ─ ┬ ─ ┐                        Yellow
    ├ ─ ┼ ─ ─ ┼ ─ ─ ┼ ─ ┼ ─ ┼ ─ ┤                        Magenta
    ├ ─ ┼ ─ ─ ┼ ─ ─ ┼ ─ ┼ ─ ┼ ─ ┤                        Cyan
┌ ─ ┬ ─ ─ ┬ ─ ─ ┬ ─ ┬ ─ ┬ ─ ┬ ─ ┐                       Black
```

3 Examine the bottom of the test page to determine print head status.

   If the horizontal lines in the test pattern are missing, one or more ink nozzles are clogged. To clear the nozzles, perform one of the print head cleaning procedures described in this chapter.

Ink Cartridge

Print Head Cleaning

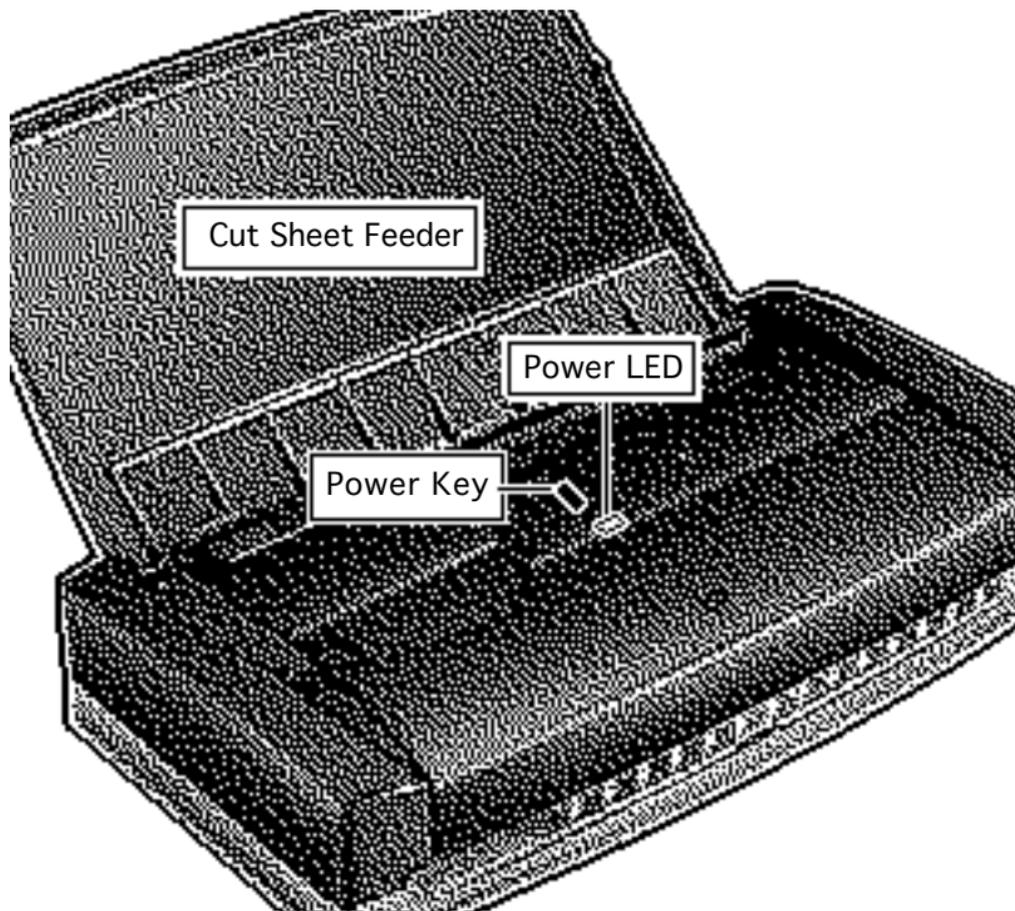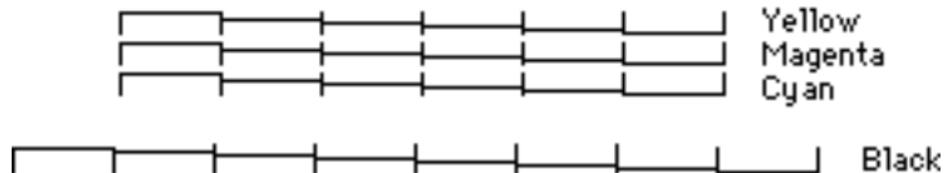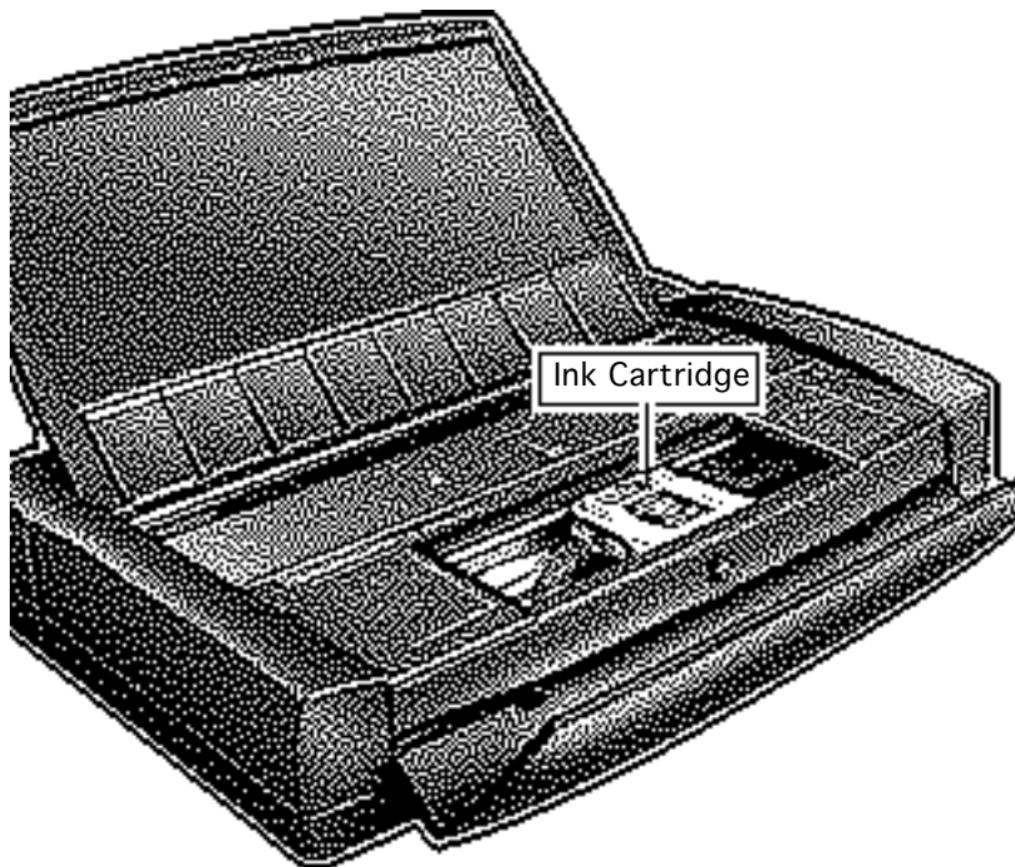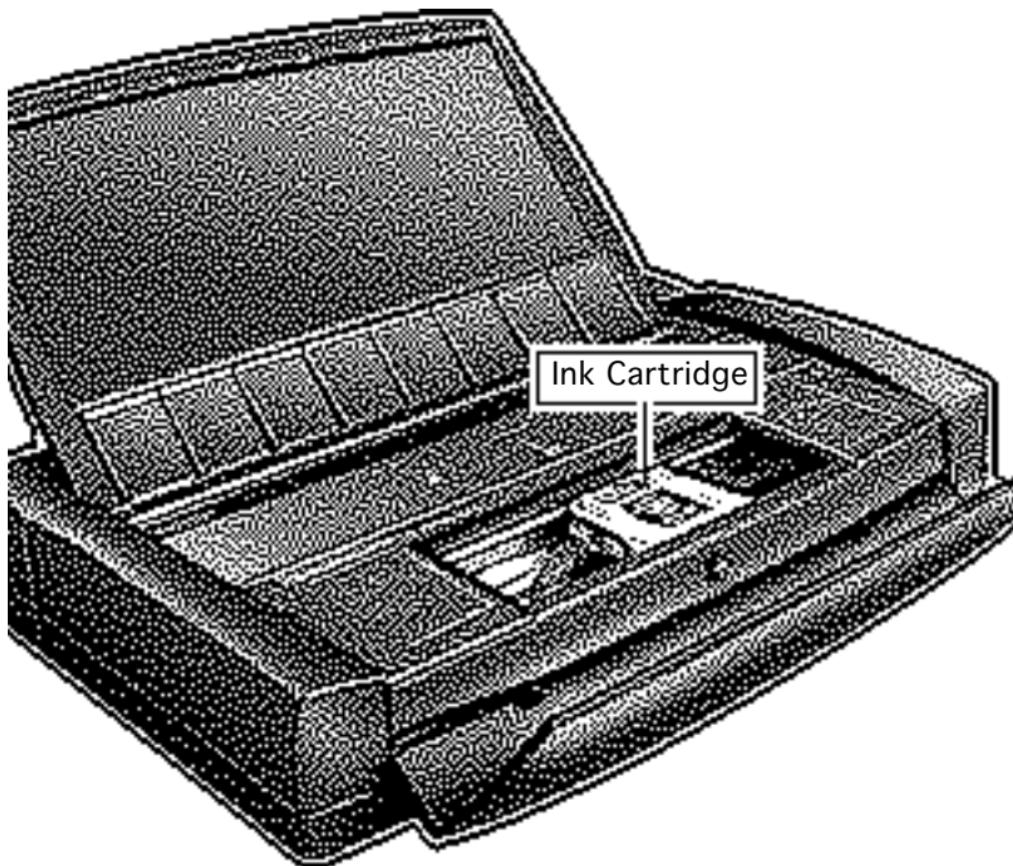No preliminary steps are required before you begin this procedure.

Caution: Do not get the printer's ink on your hands or clothes. Although the ink is water soluble, it contains dyes that will stain.

**Caution:** To prevent the print nozzles from clogging, do not touch or wipe them. The print nozzles are on the bottom of the ink cartridge.

Ink Cartridge

Note: Use the Cleaning option to correct blurred characters, horizontal white streaks, and missing dots caused by clogged ink nozzles. Use the Super Cleaning option when print quality does not improve after you have performed the Cleaning option two or three times.
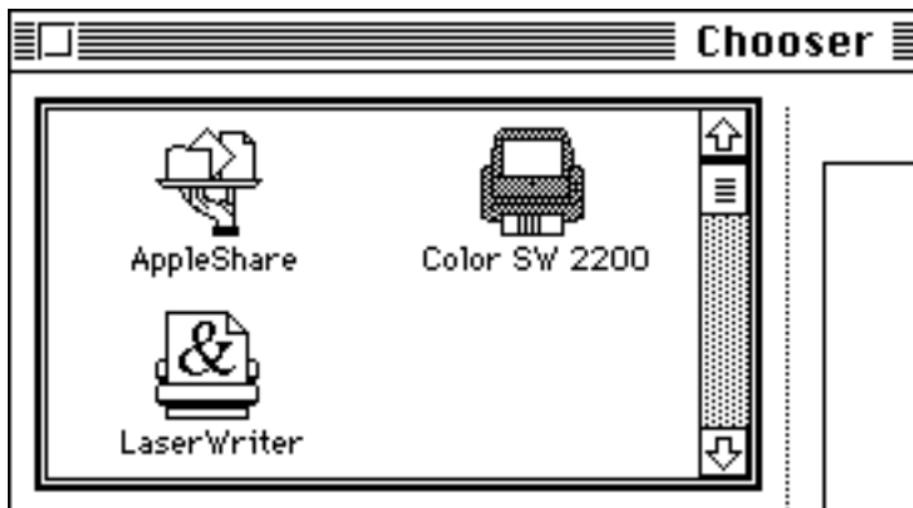
1 Make sure the Color StyleWriter 2400 printing software is installed. See the Diagnostics folder on Service Source for the driver software.

2 Using the Chooser, select Color StyleWriter 2200.

3 Make sure the correct printer port is selected. Close the Chooser.

4 Print any document or choose Print Window from the File menu.

5   Click the Utilities button in the Print dialog box.

Color StyleWriter 2200

Copies: 1   Pages

Print Quality: ○ B

Paper Type: Plai

Image: Color

Notification:

Print

Cancel
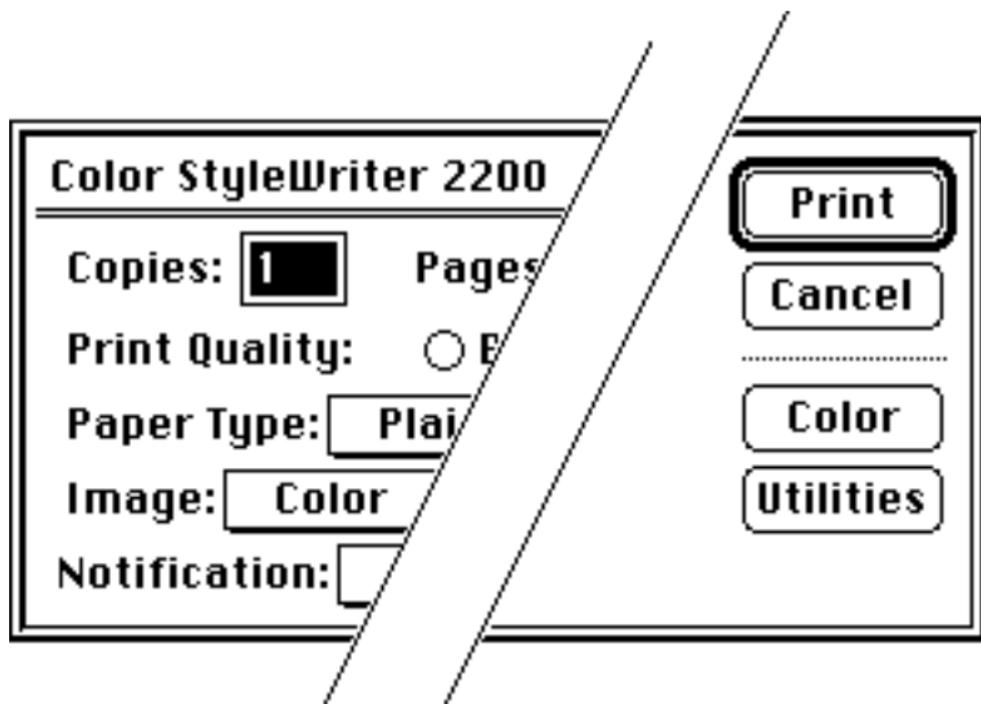
Color

Utilities

Color StyleWriter 2200 Print Utilities

☐ Clean the print head before printing

   ◉ Clean

   ○ Super Clean (Use only as a last res⟨

6 **Important:** Do not use the Super Cleaning option except when absolutely necessary, since the procedure uses great amounts of ink.

Select the "Clean the print head before printing" option.

7 Select the Clean option and click OK.

Paper Pickup Roller Cleaning Tool

Overview

A Color StyleWriter 2200 paper pickup roller cleaning tool is available for customers to correct paper feeding problems.

With high usage or with the wrong paper, the pickup rollers can accumulate dust and other contaminants that hinder their performance. Eventually the printer can experience paper mis-feeds or multi-feeds. Customers can use the cleaning tool to remove contaminants from the rollers and restore the printer to normal operation.

Cleaning Tool Distribution

Distribution of the cleaning tool varies:
- In the United States, the cleaning tool is available only through the SRF fulfillment process. Service providers cannot order the cleaning tool directly; however, they may refer customers to 1-800-SOS-APPL where customers can order a cleaning tool at no charge.
- Outside of the United States, service providers may order the cleaning tool using the cleaning tool part number from their region's Service Price Pages. Each region needs to determine whether or not to make the cleaning tool available directly to customers.
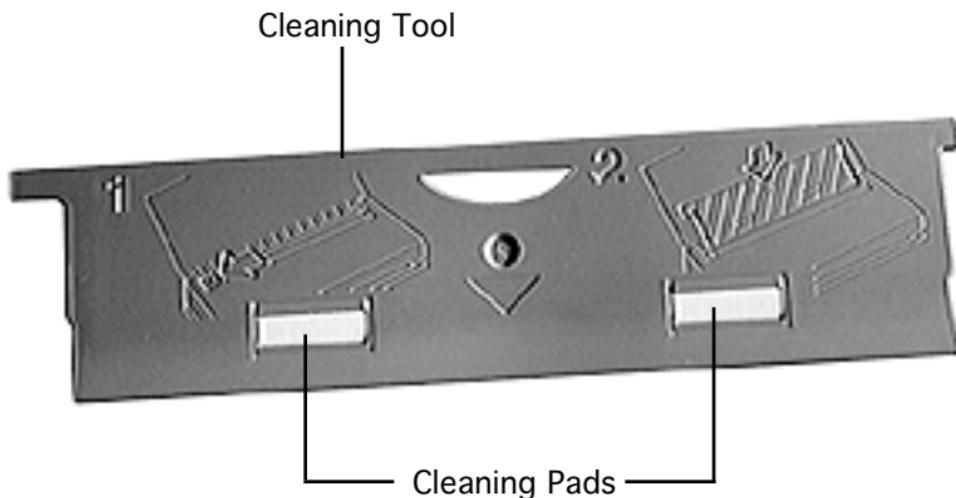
Cleaning Tool
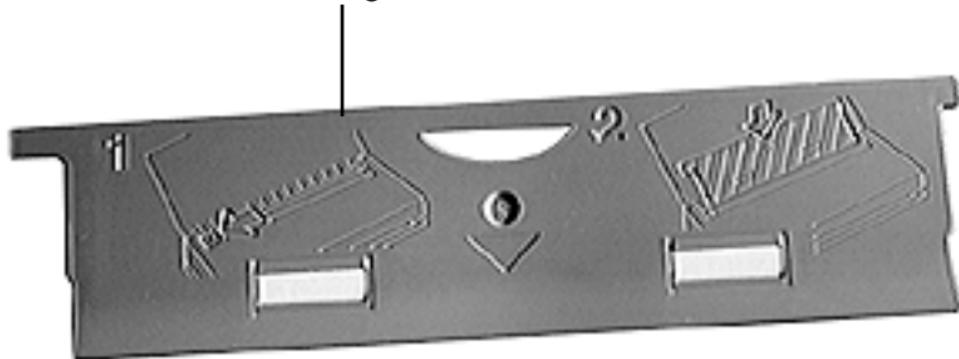
Cleaning Tool Installation and Use

The cleaning tool kit contains one cleaning tool and a complete set of written instructions printed in five different languages. Customers perform the following steps to clean the paper pickup rollers:

1 Turn off the printer, but do not disconnect any cables.

2 Move the paper guide to the far left position.
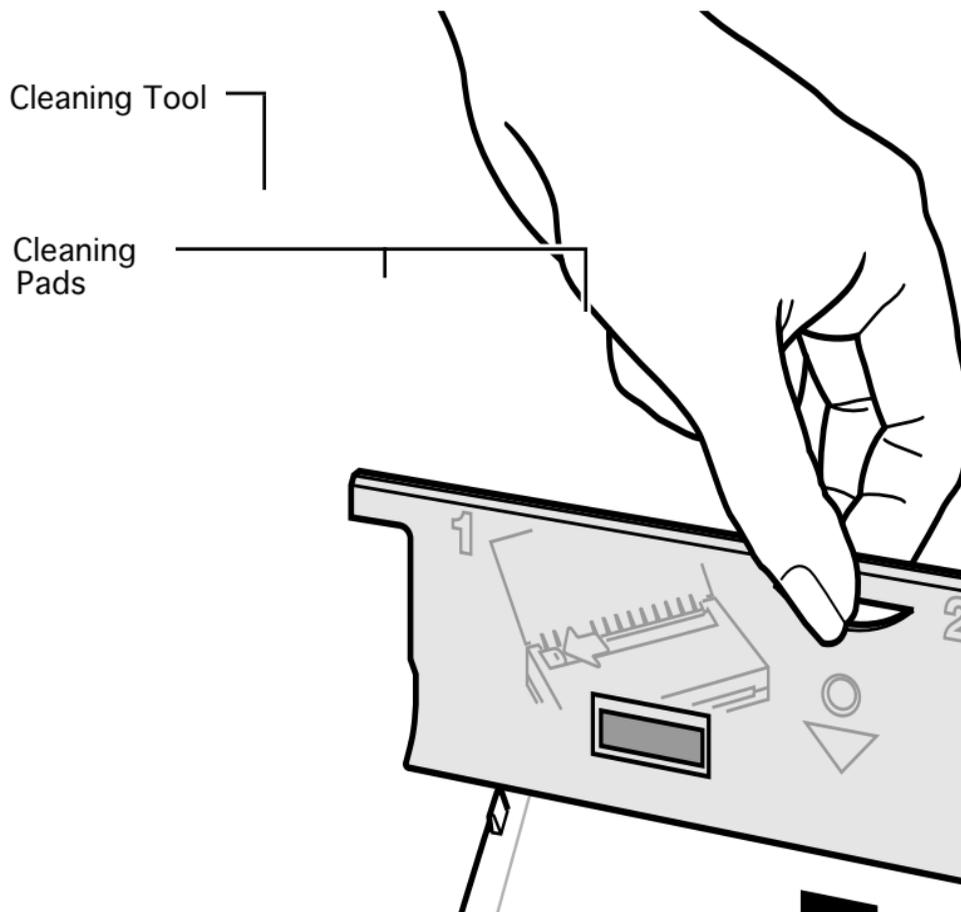
Cleaning Tool

Cleaning Pads

3 Being careful not to wet other parts, moisten the tool's cleaning pads with water.

Caution: Do not use ammonia-based or alcohol-based cleaners on or around the printer. These cleaners may react with the plastic.

Caution: Do not spill liquid in the power cord receptacle.

Cleaning Tool

Cleaning
Pads

4 Insert the cleaning tool
so the cleaning pads are
facing up and toward the
front of the printer.

5 Connect the printer to a
Macintosh, if not already
connected, and turn on
the printer.

6 **Caution:** For this step, print only a completely blank document. Otherwise, ink will contaminate the inside of the printer and cause future print quality problems.

Without adding paper, print a completely blank document. The pickup rollers rotate against the cleaning pads, and the printer's orange error LED lights up to indicate a paper jam.

7 When the rollers stop rotating and the error LED remains on, click the desktop's Color StyleWriter 2200 printer icon. The Macintosh beeps and an out-of-paper error message appears.

8 Without adding paper to the printer, click the error message's Continue button. The pickup rollers resume rotating and the error message reappears.

9 To ensure that the rollers are thoroughly cleaned, repeat steps 7 and 8 four times.

10 Remove the cleaning tool and use clean water to rinse the dust from the cleaning pads. Wipe the cleaning tool with a lint-free cloth.

11 To dry the paper pickup rollers, insert one sheet of blank paper into the printer and adjust the paper guide. Click the error message's Continue button. The blank sheet of paper moves all the way through the printer.

12 Load some paper into the printer and try printing a page of text. If the paper does not feed correctly, repeat the entire cleaning process. Customers who still experience printing problems should contact Apple Assist or their support provider for assistance.

13 Store the cleaning tool for future use.

Resetting Waste Ink Amount

This procedure covers resetting the waste ink amount in the EEPROM located on the control PCB assembly.

Note: The EEPROM in the control PCB assembly should be reset after replacing the print unit assembly.

1 Plug the AC adapter into a power source, but do not (yet) plug the adapter into the printer.

Error LED

Power LED
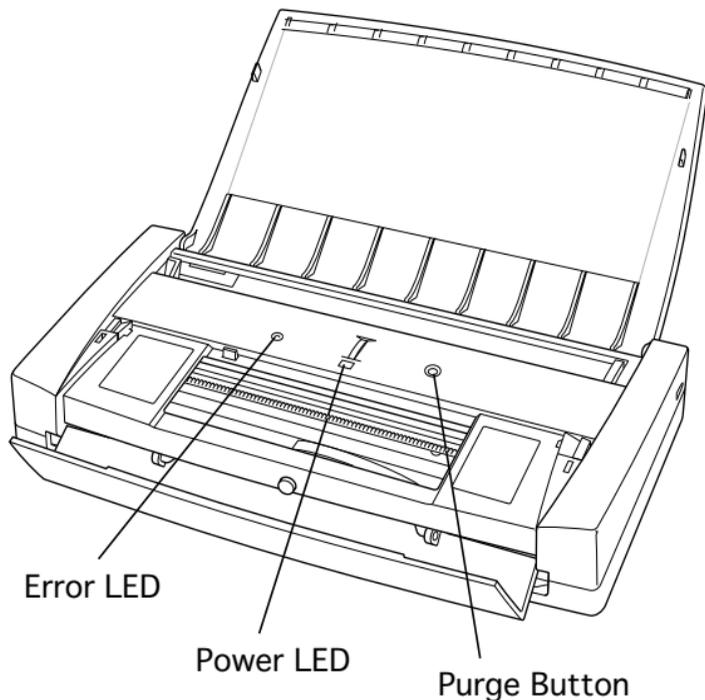
Purge Button

2   While holding down the Power button and the Purge button, plug the AC adapter's cable into the printer. Release the Power button and the Purge button after the printer's initial power-on sequence.

3   Hold down the Power button, then release it when the Error LED goes out. At this point, the Error LED will start flashing.
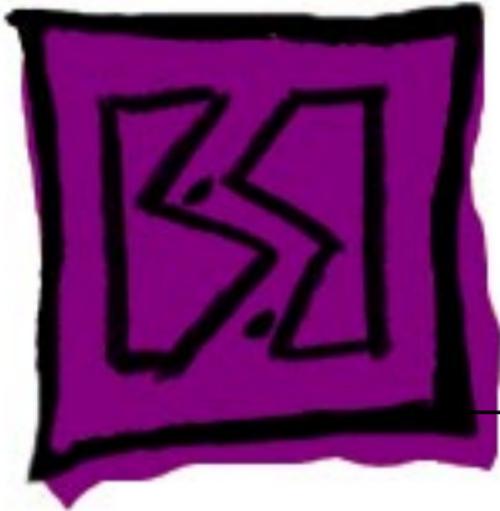
4   Press the Purge button just after the Error LED

has flashed for the eighth time.

5   Pull the AC adapter cable out of the printer.

Exploded View

Color StyleWriter 2200

Upper Case
Cover
922-1480
922-2326
(Rev.B)

Top Cover
922-1479

Battery
Attachment
922-1594

Ribbon
Cable
922-1481

NiCad
Battery
661-0697

Panel Board
922-3134

Print Unit
Assembly
661-0240

Power Adapter/Cable
110V 922-1281
220V 992-1282

Controller
Board
661-0257

Bottom Case
922-1482